Evaluation of the Final Year of the ARTS FIRST Windward Research Project

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ABSTRACT

Curriculum Research & Development Group, University of Hawaiʻi at Mānoa provided evaluation services to the Hawaiʻi Arts Alliances' ARTS FIRST Windward Research Project (AFWRP), a three-year Model Development and Dissemination Grant funded by the U.S. Department of Education (USDOE). The project was implemented in three public schools on Oʻahu, with three matched schools in a group-randomized design. The project's primary purpose was to train elementary-grade teachers, though full-day and in-class professional development, how to use the arts to help teach reading and mathematics. The goals of the project were to positively effect student outcomes, including achievement and attitudes; improve teachers' instruction by engaging students more effectively; and encourage a positive teaching and learning environment. In its final year, the project trained 4th- and 5th-grade teachers. This is the final evaluation report. We show that the project was well-received by the teachers and students, and we tentatively conclude that the arts activities used in the project had a small effect on student outcomes. However, the teachers did not implement the arts activities as frequently or with as much quality as expected. We provide four recommendations for future improvements.

Evaluation of the Final Year of the
ARTS FIRST Windward Research Project

EXECUTIVE SUMMARY

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An evaluation team at Curriculum Research & Development Group at the University of Hawai'i at Mānoa conducted an evaluation of the third and final year of the ARTS FIRST Windward Research Project (AFWRP). This is an executive summary of the full evaluation report. We summarized the results of the evaluations of the first two years of the project in previous reports.

AFWRP was a three-year project funded by a grant to the Hawai'i Arts Alliance (HAA) from the U.S. Department of Education's (USDOE) Model Development and Dissemination Grant Program. With the cooperation of the Hawai'i Department of Education (HDOE), HAA implemented the project in three randomly assigned public schools on O'ahu. A group of three randomly assigned, matched public schools served as the control group. The evaluators provided both formative and summative evaluation services. The intended audiences of the report are HAA and its project development team, the HDOE, and the USDOE.

ARTS FIRST is based on a six-year arts education strategic plan for Hawai'i Grades K–5 students and teachers. The plan is designed to help infuse the arts into the curriculum, which currently is not occurring because of a lack of arts specialists in Hawai'i public schools. The project trained teachers how to integrate arts strategies into basic skills instruction, with the ultimate goal of improving students' reading and mathematics achievement, attitudes toward school, and interest in the arts. In professional development workshops, teachers were trained how to use the strategies in drama, dance, and the visual arts. Professional artist mentors worked closely with the teachers as they implemented the strategies in the classroom. In School Year 2005–06, the focus of this report, the project provided services to Grades 4 and 5.

The project model and methods evolved over the three year project period because of the project team's experiences and on the formative evaluation findings. The final model was designed to prepare teachers to use arts activities in their teaching by understanding three fundamental strategies, known as *observing*, *patterning*, and *representing*.

The Topics and Methods Addressed in the Study

The evaluation examined student outcomes, including reading and mathematics achievement, school attitudes, and arts interest; the frequency and quality of the implementation of the project; the participating teachers' attitudes and opinions; and the participating students' opinions about the project.

The methods that the evaluation team used to collect data included a student achievement test, student and teacher questionnaires, student and teacher focus groups, teacher logs, and structured observations of videotapes of the project teachers. The evaluation team analyzed the data by using statistical significance tests to examine the differences between the project and control student groups, with propensity score adjustments; calculating statistical significance tests of the differences

between the project and control teacher groups' attitudes; analyzing and summarizing the teacher and student focus group results; descriptively analyzing the teacher log results; and rating the quality with which the teachers used the arts activities.

The Results and Conclusions of the Study

The evaluation results showed a statistically significant difference between the project and control groups' reading and mathematics achievement in favor of the project schools. These results tentatively suggest that the project positively affected students' reading and mathematics achievement. We say that the results are tentative because there is no way to know with certainty how much the schools' regular reading and mathematics programs might have affected the results.

The project group students' mean school attitude score was slightly higher than the control group's mean at a statistically significant level, when using IRT scores. This is mirrored by the qualitative results of the teachers and students, which indicated that the attitudes toward school of some of the students improved during the project.

The results for students' interest in dance showed a statistically significant difference between the groups in favor of the project schools. A significant difference between the groups was also found on the students' interest in music, but in favor of the control group. The results for students' interest in drama and the visual arts indicated no statistical significance between the groups. We conclude that the differences between groups was due to (a) the project, (b) the schools' regular music or visual arts classes, and (c) the contextual aspects of the participating schools (e.g., proximity of two of the schools to the Polynesian Cultural Center).

The teachers' attitudes about the project were generally positive, although some teachers noted that the time necessary to implement the arts activities was an obstacle to full and frequent use of the activities, and they thought that the activities might not have been sufficient to affect outcomes. We believe that these two comments might reflect a lack of the teachers' commitment to using the activities frequently and well; if they were committed, we believe, they would have found the time to implement the activities and they would have been more likely to have believed that they were effective. Nevertheless, the students expressed positive opinions about the project in focus groups.

Our study of the frequency of implementation showed that the teachers used the arts activities less than the project team had hoped and with less quality than desired. The teachers may have had praise for the activities, as shown in their focus group comments, but this perspective was not fully reflected in the frequency or the quality of their use of the activities. These disappointing implementation results suggest that, in future projects, project personnel need to pay more attention to encouraging the teachers to use the activities regularly and with greater fidelity to the project model.

We tentatively conclude that the AFWRP arts activities used in the project had a small effect on student outcomes and that they were well-received by the teachers and students. Furthermore, we recommend that the project personnel take at least four steps to improve the project:

1) Identify the most effective strategies that the teachers are most likely to implement.
2) Ensure that implementation levels are increased.
3) Instruct the teachers how to recognize problems in using the activities.
4) Be clear about the theoretical model that they are using.

In the full report, we provide a summary of the validity threats faced during the evaluation and the manner in which we addressed them.

CHAPTER I
THE ARTS FIRST WINDWARD RESEARCH PROJECT: PRIOR RESEARCH, ORIGIN, PURPOSES, METHODS, AND THEORETICAL FOUNDATION

Under a Memorandum of Agreement (MOA) with the Hawaiʻi Arts Alliance (HAA) (formally the Hawaiʻi Alliance for Arts Education), Curriculum Research & Development Group (CRDG), University of Hawaiʻi at Mānoa has provided formative and summative evaluation services to the ARTS FIRST Windward Research Project (AFWRP), a three-year endeavor funded by the U.S. Department of Education (USDOE) Model Development and Dissemination Grant Program. The intended audiences of the report are the HAA, the Hawaiʻi Department of Education (HDOE), and the USDOE.

AFWRP was a project to study the effects of integrating the arts in reading and mathematics instruction. It was implemented in three randomly-assigned public elementary schools on the island of Oʻahu. A group of three public elementary schools served as the project's control group.

Previously, we reported the results of the project evaluations for Years 1 and 2 (Brandon, Lawton, and Krohn-Ching, 2004, 2005). This is the report for Year 3 (School Year [SY] 2005–06) of the project. In the report, we present four chapters that include

5) a brief overview of previous research on the effects of arts education on student outcomes (this chapter);

6) a description of AFWRP's origin, purposes, and methods, as well as the theory underlying the methods (this chapter);

7) a description of the design and the methods of the Year 3 evaluation (Chapter II);

8) the results of the Year 3 evaluation (Chapter III); and

9) a discussion of the evaluation results and their implications for ARTS FIRST (Chapter IV).

Overview of Research on the Effects of Arts Education on Student Outcomes

There have been considerable research findings published during the last decade suggesting that arts education for young children has positively affected student cognitive and social outcomes (e.g, see Deasy, 2002; Fiske, 1999; Hetland & Winner, 2004). Although many of the research findings do not apply directly to arts integration projects such as AFWRP, we present them here as background.

In the Arts Education Partnership compendium, *Critical Links* (Deasy, 2002), 64 research studies examining the effects of arts learning on students' social and academic skills were summarized and discussed. Deasy found that the effects of the arts was particularly important for students with special learning needs. He also concluded that (a) drama develops higher-order

language and literacy skills, (b) music enhances language learning, (c) visual arts experiences develop literacy and writing skills, and (d) visual arts experiences develop numeracy skills. In a similar compendium of leading educational researchers, *Champions of Change: The Impact of the Arts on Learning* (Fiske, 1999), developed by The Arts Education Partnership and the President's Committee on the Arts and the Humanities, it was concluded that "learners can attain higher levels of achievement through their engagement with the arts" (p. viii). In a third review, Podlozny (2000) summarized the results of experimental studies that showed the effectiveness of drama for increasing achievement in several aspects of language arts.

Contradictorily, however, several meta-analyses on the transfer of arts education to non-arts achievement provided other conclusions about the effects of the arts on academic achievement (Butzlaff, 2000; Keinänen, Hetland, & Winner, 2001; Vaughn and Winner, 2000; Winner & Cooper, 2000). Butzlaff found no reliable effect in his review of experimental studies examining the effects of music on reading achievement. Vaughn and Winner found a positive relationship between the number of students' arts courses and their SAT scores, and they discussed the findings of Eisner (1999), who found that SAT scores increased the more students are exposed to almost all subject areas. However, these findings were correlational, not causal. Winner and Cooper's statement about the results of a review of selected correlational and experimental studies summed up nicely the cautions that are necessary when making conclusions about much of the research: ". . .it is the correlational, self-selected studies that underlie the often reported relationship between studying the arts and academic achievement" (p. 51).

In a more recent review of studies examining the effects of arts education on non-arts academic outcomes, Hetland and Winner (2004) conducted a meta-analysis of 188 studies that addressed the connection between artistic disciplines and academic achievement. Hetland and Winner provided summaries of the findings for 10 "instrumental claims" that have been made in research on the effects of arts education. For three of their claims, they found supporting evidence demonstrating a causal connection between (a) classroom drama and verbal skills, (b) music listening and spatial reasoning, and (c) music instruction and spatial reasoning. These claims were based on the results of experimental research. For five of the claims, they concluded that there was little support for causal relationships between (a) studying the arts and verbal and mathematics achievement, (b) studying the arts and creativity, (c) visual arts and reading, (d) dance and reading, and (e) music and reading. The lack of strong support for these claims was because the results were correlational or because researchers did not clearly define the art forms that they studied. For the final two instrumental claims, Hetland and Winner found equivocal

evidence supporting causal relationships between dance and spatial reasoning and between music and mathematics. Overall, they concluded that greater methodological rigor is needed in future studies. Furthermore, they reported that researchers typically have not reported the quality of arts instruction and that more research is needed on non-cognitive outcomes such as school attitudes and absenteeism.

In addition, the pedagogical techniques in many of the arts integration studies discussed in the literature have been poorly described, making it difficult for evaluators of arts integration projects to generalize the results of previous research and evaluation to their projects. Our review of the literature shows that clear definitions of arts integration models are critical for examining the effects of arts instruction on academic gains.

AFWRP's Origin and Purposes

The Essential Arts Toolkit

AFWRP grew out of ARTS FIRST, a strategic plan for incorporating and integrating the arts into public school education that was initiated in 1999 by the Hawai'i State Foundation on Culture and the Arts at the behest of the Hawai'i State Legislature, Act 180 (HAA, 2007). The centerpiece of ARTS FIRST is the *ARTS FIRST Essential Arts Toolkit for the K-5 Classroom Teacher: Hawai'i Fine Arts Grade Level Guide, Supplement to the Hawai'i Department of Education's Arts Instructional Guide* (HAA, 2003). HAA developed the Toolkit in collaboration with the ARTS FIRST partners, which were mandated by Act 306 of the 2001 legislature and included the HDOE, the University of Hawai'i at Mānoa College of Education, the University of Hawai'i at Mānoa College of Arts and Humanities, the Hawai'i State Foundation on Culture and the Arts, and the Hawai'i Association of Independent Schools. The Toolkit provides a framework to connect arts strategies for the visual arts, music, dance, and drama with the HDOE's standards for other academic subjects such as reading and mathematics in Grades K–5. It is the intent of the Toolkit to enrich teachers' knowledge in the arts by focusing on the most essential arts content and to assist them in linking essential arts learning to other classroom instruction. The Toolkit addresses teachers' lack of knowledge and preparation time for teaching the performing and visual arts effectively in the classroom.

AFWRP Purpose, Goals, and the Grades Served

The primary purpose of AFWRP was to pilot-test the use of the Toolkit for integrating the arts into reading and mathematics instruction for three years at three project schools. The project provided teacher professional development (PD) in full-day institutes and through in-class mentoring by professional artists. The three goals of AFWRP, as given in the original project

proposal to the USDOE, were to

1) show significant improvements in student performance (particularly reading comprehension) and positive attitudes through integrating high-quality, standards-based arts into academic instruction;

2) improve teachers' instruction by engaging students more effectively; and

3) encourage positive practices and creativity in teaching and learning, spark new interest in learning by both teachers and students, and observe and document evidence of changes in teaching pedagogy.

AFWRP provided services to students and teachers in Grades 3–5. In Year 1 (SY 2003–04), the project provided services to Grade 3 at the three project schools (Lāʻie Elementary, Benjamin Parker Elementary, and Keolu Elementary). Appendix A (p. 51) includes descriptions of the three project schools, as provided by the HDOE (2006). Descriptions of the three control schools (Kahuku Elementary, Heʻeia Elementary, and Kaʻaʻawa Elementary) that were matched with the project schools are also provided in Appendix A. In Year 2 (SY 2004–05), the project provided services to Grades 3 and 4; and in Year 3, the focus of this report, the project provided services to Grades 4 and 5. Initially, the project was to provide services to Grades 3–5 in Year 3; however, due to constraints on the availability of artist mentors, the treatment was only provided to Grades 4 and 5.

AFWRP Methods

Professional Development

The core of ARTS FIRST is statewide professional development for classroom teachers and teaching artists. . . . The interaction between classroom teachers and artists gives teachers opportunities to fully comprehend the elements and principles of the arts and to learn effective arts instructional practice. Teachers also receive an artist mentor to assist them in the development of integrated arts lessons that will be taught in their classrooms. Following lesson planning, the mentor first demonstrates arts instruction in the classroom, then co-teaches an integrated lesson with the teacher, and finally observes the teacher, providing helpful feedback along the way. (HAA, 2007, p. 4)

The full-day ARTS FIRST PD institutes are designed to introduce the project teachers to the various strategies and activities for integrating the arts into basic skills instruction and to provide opportunities for discussion and reciprocal feedback. A total of six full-day sessions, each attended by one or two members of the evaluation team, were held during the school year. The interaction between the classroom teachers and the artist mentors during the in-class mentoring

sessions was intended to give the teachers opportunities to observe the modeling and to practice using the elements and principles of the various art forms—previously presented in the full-day sessions—in classroom instruction under the mentors' supervision. A full account of the full-day PD institutes for SY 2005–06, based on the observations of the third author of this report, who is a university arts educator, is presented in Appendix B (p. 99). The account of the full-day institutes is intended as an archival record of the training that is useful for documenting the project and for helping the project team make revisions in future projects, if necessary.

During the three years of the project, AFWRP developers, managers, and artist mentors met regularly for training, reviewing practices, and revising the project methods. At least one representative of the evaluation team attended each meeting. Formative evaluation results, showing that the teachers were not implementing the project methods widely and that a number of the teachers believed that the project methods were insufficiently effective to improve children's reading and attitudes, were presented. In response to (a) these findings, (b) the project personnel's learning and experiences during first two years of AFWRP, and (c) changes made to the Hawai'i Content and Performance Standards (HCPS-III) in 2005, a second edition of the Toolkit was produced (HAA, 2007). The revised Toolkit was organized around the principle of the arts as tools for thinking, based largely on the work, *Sparks of Genius: The Thirteen Thinking Tools of the World's Most Creative People* (Root-Bernstein & Root-Bernstein, 1999). The program developers selected three combinations of Root-Bernsteins's "tools:" *observing*, *patterning*, and *representing*. Each of these strategies is discussed in the revised Toolkit and are briefly explained below. Specific ARTS FIRST activities that were taught for each of the underlying strategies are shown in Table I-1.

Observing. Through observing, students examine details closely, yielding deeper understanding of the subject. Observing not only promotes awareness of details but also increases depth of visualization. Observing helps students see patterns and relationships in mathematics and text. As students become more aware of details in stories, their writing reflects the importance of detail in communicating ideas.

Patterning. Developing the ability to see and produce patterns in the arts helps students discern and understand relationships in general. Visual and rhythmic patterns can promote organization within student writing and enhance students' abilities to comprehend sequential relationships and patterns within mathematical concepts. Students demonstrate their understanding of patterns through the arts by creating scenes, images, or musical phrases that exemplify patterns in reading, writing, or mathematics.

Table I-1

Year 3 Arts Activities Across Three ARTS FIRST Strategies for Four Art Forms

Art form	Observing	Patterning	Representing
Drama	• Magic Box • Visualization • Finding the Main Idea	• Domino • Machines • Story Design • Story of Numbers • Sequence of Events • What Happens Next?	• Frozen Dominoes • When We are Story • Character Mirrors • Environmental Journey • Crow Boy • Text Connections
Dance/music	• Mirrors • What Do You Hear? • What Am I? • Ali Baba • Symmetry • Talk and Tap	• Echo • I Move, You Move • Rhythm Patterns	• Pele Dance • Imagery Dances • ABA Form in Music • Dimension Dances • Geometry with Strechies • What's My Vocabulary Word
Visual arts	• Brown Bag Doodle • Brown Bag Mystery • I Spy • Memory Game • Scape Escape • Gargoyles Galore • Zoom Journey • Illustrating Text • We Spy	• Border Designs • Pattern Picks • Railroad Tracks • Geometric Borders • Grid Designs • Railroad Tracks Assessment	• Peace Quilt • Expression Lines • Melodic Quick Draw • Idiom Illustration • Shape Transformation • Kardinsky Angels

Representing. Students express ideas in multiple ways: with words, movements, equations, songs, symbols, or images. To move from ideas to communication almost always requires a series of steps: translating the idea or problem into images or models, searching for patterns through careful observation or experiment, abstracting the most important elements, and trying out various solutions while searching for the language that can best express one's insight.

Theoretical Underpinnings

To better understand the model of arts integration that AFWRP developed and implemented over a three-year period, it is important to review some of the terms and definitions used to describe arts integration. The term *arts integration*, as used in the literature, refers to a variety of

content, resources, structure, and pedagogies (Bresler, 1995). Researchers have identified various levels, styles, and approaches to arts integration within the school curriculum such as *connection* (Bresler, 1995; Cornett, 2007; Wiggins, 2001), *correlation* (Cornett, 2007; Fogerty, 1991; Krug & Cohen-Evron, 2000), *integration* (Cornett 2007; Drake; 1993, Snyder, 1996), *life-centered* (Drake, 1993; Jacobs, 1991; Krug & Cohen-Evron, 2000), *conceptual connections* (Wiggins, 2001), *process connection* (Drake, 1993; Fogerty, 1991; Wiggins, 2001), *fusion* (Jacobs, 1991; Vars, 1991), *affective style* (Besler, 1995), *social integration* (Bresler, 1995), and *unstructured core* (Vars, 1991). In addition, throughout the literature, terms such as *infusion*, *topics-within-disciplines*, *interdisciplinary*, *holistic approaches*, *multidisciplinary, in-the-arts, with-the-arts*, and *through-the-arts* have been used to describe arts integration (Bresler, 1995; Cornett, 2007; Mishook & Kornhaber, 2006). Mishook and Kornhaber contended that the lack of shared agreement among arts educators about the definition and description of arts integration strategies is a major problem in the research on arts integration.

In our description of the AFWRP approach to arts integration, we use the models in the literature labeled as *connection* and *integration* models, which, from our review, are the most closely aligned with the purposes and methods of ARWRP. We briefly describe below each of these models and discuss how they are similar to the AFRWP model of arts integration.

Connection Model

In the *connection model,* one discipline serves the other by providing materials or concepts through which information can be effectively learned (Bresler, 1995; Krug & Cohen-Evron, 2000, Snyder, 2001: Wiggins, 2001). Krug and Cohen-Evron referred to this approach as using the *arts as resources for other disciplines.* They found that the arts stimulate students' multisensory perception. For example, Aschbacher (1996) illustrated this model by suggesting that after students read the *Island of the Blue Dolphins*, they sculpt a doll that represent a character from the book. According to Bresler, the connection approach places the arts in a subordinate role in which the arts serve to enhance other subjects.

Integration Model

The *integration model* (Drake, 2001; Fogerty, 1991; Snyder, 2001; Wiggins, 2001) is an approach in which two or more discipline areas address a broad theme at the same time while the integrity of each discipline is maintained. For example, Isenberg and Jalongo (2006) presented an integrated unit on the theme of the American Westward Expansion. In a third-grade class-room, children pretended to be traveling the Oregon Trail and directed their expedition out west. The students learned though drama by reenacting events similar to those faced by early pioneers.

It is the intent of this lesson to produce a drama artifact while increasing children's understanding of the history of the pioneers as well as the geography and the social aspects of the journey. An AFWRP mentor modeled a similar activity, in which a third-grade class reenacted Cortez landing in Mexico.

The difference between these two models, however subtle, is that the integrated model requires specific knowledge and skills taught by the teacher with an extensive artistic background or in planning and collaboration with arts specialists (Bresler, 1995) to ensure that the properties of the art form being used (e.g., body, energy, timing in dance) to teach a subject area are taught parallel and with the same fidelity as the content area; the connection model, on the other hand, uses the arts to expand upon the primary lesson (e.g., reading comprehension), provides less emphasis on the arts as a stand-alone subject area (i.e., its intent is not to teach the art form), and does not require as much artistic background.

The project personnel stated that ideally AFWRP should resemble the integration model—that is, preparing teachers, though their work with professional art educators, to master artistic components. In our opinion, however, AFWRP evolved to have a closer resemblance to the connection model, because the teachers tended to use the arts—without maintaining the necessary integrity of the nature of the arts (e.g., creativity, exploration, etc.)—as a secondary tool for teaching reading and mathematics.

CHAPTER II
DESIGN AND METHODS

In this chapter, we describe how we conducted the Year 3 AFWRP evaluation. We describe the design of the evaluation, discuss the formative and summative aspects of the evaluation, discuss the topics that the evaluation addresses, describe the evaluation instruments, and show how we collected data with the instruments.

Evaluation Design

We used a mixed-methods, fixed-effects, control-group design in the AFWRP evaluation. In an evaluation with this type of design, quantitative and qualitative data are collected on teachers and students who receive the project services (the *treatment group*, also known as the *project group*) and on a comparable group of teachers and students (the *control group*). The project and control groups were assigned from six Title I schools on the Windward Coast of the island of O'ahu whose principals and teachers volunteered to participate in the study at the beginning of Year 1. Some of the comparisons between groups made during the study were cross-sectional, but most were longitudinal.

Changes in the Design During the Three Years of the Evaluation

The approach we have taken to the design of the study is slightly different from our original design at the beginning of Year 1. When we assigned the volunteer schools to project and control groups at the beginning of Year 1, we were using a *matched-pair group-randomized, random-effects design*—that is, a design in which matched schools are randomly assigned to the project and control groups and the results are generalized beyond the sample of studied schools. In an educational evaluation using this type of design, schools' demographic characteristics are reviewed, and the schools are matched as closely as possible on the characteristics. This procedure helps increase the precision of the results of the study. After pairing the schools, they are randomly assigned to project and control groups within pairs, resulting in a study that allows researchers to generalize to all similar schools in the educational jurisdiction—in our case, to all HDOE Title I schools.

We matched the six schools on ethnic distribution (with emphasis on Hawaiian and part-Hawaiian ethnicity), school size, socio-economic status (defined as the percentage of students receiving subsidized lunches), and the percentage of Grade 3 and 5 students with average or above average scores on the Stanford Achievement Test in reading and mathematics. The school statistics on each of these characteristics are shown for Year 1 in Table II-1, which we borrowed

Table II-1

Demographic Characteristics of the ARTS FIRST Windward Research Project Participating Schools (Project Schools in Bold Font)

School	Percentage of students receiving subsidized lunches	Ethnicity		Stanford Achievement Test (% average & % above average)			
		Hawaiian/ part-Hawaiian	Other	Reading		Mathematics	
				Grade 3	Grade 5	Grade 3	Grade 5
Keolu (237 students, 15 teachers)	44.4%	44.6%	55.4%	78.8	86.1	75.0	86.1
Kaʻaʻawa (145 students, 11 teachers)	53.1%	55.7%	44.3%	83.4	62.5	94.4	68.8
Lāʻie (600 students, 40 teachers)	64.0%	28%	72%	91.0	85.5	94.8	86.6
Kahuku (554 students, 33 teachers)	61.4%	42.6%	57.4%	91.3	79.3	92.6	73.9
Parker (466 students, 41 teachers)	56.5%	53%	47%	78.2	69.1	75.9	75
Heʻeia (612 students, 40 teachers)	51.1%	42.2%	57.8%	86.6	78.4	86.4	81.4

from the Year 1 evaluation report. We then randomly assigned the schools within pairs to the project and control groups, resulting in the assignment shown in Table II-1.

During the first two years of the project, we realized that we needed to modify our conceptualization of the design and to modify our analyses accordingly, for two reasons. The first reason was that the number of schools was too small for a powerful group-randomized study of AFWRP. A small number of schools can result in low statistical power (i.e., the likelihood that we would identify the differences that existed among groups) for a project, such as AFWRP, that has a small effect on student outcomes. As we anticipated, the power of our analyses in Years 1 and 2 turned out to be low. To make up for this deficiency, we used *propensity scores* (described thoroughly later in this chapter) as covariates to adjust the scores for preexisting

differences between groups—a procedure that helps increase statistical power. The second reason for the change in our conceptualization was that we learned as the project progressed that the arts strategies and the PD for training teachers were not sufficiently mature pedagogically for us to generalize the results beyond the boundaries of the study. For this reason, we consider our study to be a *fixed-effects* study instead of a random-effects study. The analyses for this type of study compare the group of project schools with the group of control schools and do not generalize to a larger population.

The Topics Addressed in the Study

The evaluation examined student outcomes, the frequency and quality of the implementation of the project, the participating teachers' attitudes and opinions, and the participating students' opinions about the project. In Table II-2, we show the methods we used to collect data on these topics. We describe in detail how we collected data addressing each of these topics throughout the remainder of this chapter.

Table II-2
Evaluation Topics and Methods of Data Collection

Evaluation topic	Instrument or data collection method
Student outcomes	• Hawaiʻi State Assessment • School Attitude Survey • Student Interest in the Arts Questionnaire
Frequency and quality of the implementation of the project	• Weekly teacher log • Teacher observations
Teachers' attitudes and opinions	• Teacher Attitudes Towards Teaching with the Arts Survey • Project teacher focus groups • Professional Development Quality Survey
Students' opinions about the project	• Project student focus groups

The Formative and Summative Purposes of the Three-Year Evaluation

The study over the entire three-year period was designed to address both summative and formative evaluation purposes. The summative evaluation findings, given primarily in the current report, are intended to be useful to the HAA, USDOE, and HDOE as they examine the

extent to which the arts can be used in the classroom to improve the reading and mathematics achievement of elementary school children. The formative evaluation findings, given primarily in informal feedback and in the first two years' reports, were intended to be useful to the HAA during the progress of the three-year project and for its future projects. Toward this end, the evaluation project manager (the second author of this report), as well as, on some occasions, the evaluation principal investigator (the first author) attended the project planning, development, and professional development sessions; participated in discussions with project administrators, managers, and artists mentors about improving the project; and presented and discussed preliminary evaluation findings. Throughout the project period, project personnel reported to us informally that they found the formative evaluation findings and feedback helpful as they revised the project methods.

As the first two years of the project progressed, it became apparent that it was too soon in the development of AFWRP for the evaluation findings to be useful for summative evaluation purposes. The project staff had made many revisions in the project's scope and pedagogical methods as it evolved over the course of the three years; therefore, we considered it to be too soon to make summative evaluation conclusions during Years 1 and 2. Therefore, in our reports of the evaluations conducted for Years 1 and 2 of AFWRP (Brandon et al., 2004, 2005; Lawton & Brandon, 2004, 2005), we emphasized the findings that were useful primarily for formative evaluation purposes—that is, for making project improvements—and we delayed arriving at summative evaluation conclusions until we produced the present report.

This report, we reverse the emphasis from previous years' reports and focus on the evaluation findings that are of a summative nature. Our emphasis on summative conclusions is apparent in two ways. First, our analysis of student outcomes focuses primarily on the results for the fifth-grade students who were in the project for its duration. (We collected outcome data during Year 3 for the students in all three grades—data which were useful for conducting validity studies—but we do not present the results for all three grades in this report.) We believe it is appropriate to focus primarily on a longitudinal analysis of the results for the students who were in the project for three years because the arts strategies that the teachers used did not comprise a strong enough intervention to have shown effects over the course of only one or two years. Second, our analyses of qualitative data focus only on the data collected at the end of SY 2005–06. We do not summarize the results of teacher or student focus groups that we conducted in the middle of the year; these results were useful for providing formative evaluation feedback to the project staff but not for arriving at final conclusions about the project. However, in

contrast to the analyses of student outcome data, for which we limited the results to only those students who had been in the project for all three years, we collected focus group data on students in all three grades. We chose this approach because we sought to get broad perspectives about the project that we could use to help strengthen our summative conclusions.

Student Attrition

A concern for the validity of the results of any longitudinal study is student attrition. In Figure II-1, we show statistics for examining the attrition among the group of Year 1 Grade 3 students who we tracked longitudinally through the end of Grade 5. (The tracking is shown for the student questionnaire data. We did not examine attrition for the achievement test; only a handful more students were administered it, and we do not expect any differences in the attrition findings for those few students.) The statistics are presented for student ethnicity (as represented by the percentage of Hawaiian/part-Hawaiian students, which was the primary group of interest in the ethnicity matching), gender, and socio-economic status (SES). These student characteristics were three of the four on which we matched students at the beginning of the project. As seen in the figure, there were minimal differences in the demographic characteristics between the group of students who participated in Year 1 as third-graders and the same group in Year 3 as fifth-graders.

We examined these differences statistically. A chi-square analysis indicated virtually no differences for the number of types of students representing each group between Years 1 and 3 on ethnicity (percentage of Hawaiian/part-Hawaiian students), $\chi^2 = .002$, $p > .05$; gender, $\chi^2 = .015$, $p > .05$; and SES (percent of students receiving subsidized lunch), $\chi^2 = .004$, $p > .05$. Thus, we can be confident that attrition did not differentially affect the demographic characteristics of the group of students who were originally in the project and that we can generalize our results to all the students in the participating schools.

Student Outcomes

The study of student outcomes examined the extent to which students who attended the project schools during all three years of the project showed greater reading and mathematics achievement, attitudes toward school, and interest in artistic activities, all adjusted for beginning (i.e., pretest) scores, than the students in the control group schools. As stated above, we conducted a longitudinal study in which we analyzed the results for project fifth-graders in Year 3 for whom we have results for Year 1, when they were in Grade 3.

Because of the small number of project and control schools, we could not control suffi-

	Year 1, Grade 3								
	Ethnicity			Gender			SES		
Group	Hawaiian /part-Hawaiian	Other	Total	Male	Female	Total	Sub-sidized lunch	Regular	Total
Project	45%	55%	100%	44%	56%	100%	61%	39%	100%
Control	42%	58%	100%	46%	54%	100%	63%	37%	100%

	Year 3, Grade 5								
	Ethnicity			Gender			SES		
Group	Hawaiian /part-Hawaiian	Other	Total	Male	Female	Total	Sub-sidized lunch	Regular	Total
Project	45%	55%	100%	41%	59%	100%	63%	37%	100%
Control	40%	60%	100%	49%	51%	100%	61%	39%	100%

Figure II-1. Demographic characteristics of students who participated in the Year 1 data collection as third-graders and in the Year 3 data collection as fifth-graders.

ciently for preexisting differences between the groups without adding covariates to our analyses. We chose to adjust for the differences between the non-equivalent groups by using *propensity scores* (e.g., Luellen, Shadish, & Clark, 2005) as one of the covariates. Propensity score analysis is a statistical technique for balancing non-equivalent treatment and control groups on observed covariates to get more accurate estimates of the effects of a treatment (Luellen et al., 2005). In the case of our study, the covariates were preexisting student characteristics—student ethnicity, SES, and pretest performance—that made the groups non-equivalent and that might affected the students' results on the project's outcome measures. The balancing in propensity score analysis happens by adjusting outcome scores by "removing" the effects of these characteristics from outcome scores.

Propensity score adjustment simplifies the process of using covariates by simultaneously combining them into a single score (viz., a probability score between 0 and 1). This simplifica-

tion helps ensure that the analyses do not reduce statistical power. Each covariate reduces statistical power somewhat. When several independent covariates are used in a statistical analysis of differences between groups, the statistical power of the analysis is reduced. By using propensity scores, we decrease power less than when using several covariates.

There are several methods for calculating propensity scores. We used the guidelines outlined in Luellen et al. (2005), which is largely based upon the work of Rosenbaum and Rubin (1983, 1984). Rosenbaum and Rubin (1984) suggested propensity scores that use matching and stratification to adjust for preexisting between-group differences. According to Luellen et al., "Stratification divides participants into strata so members of the treatment and control groups have similar propensity scores within strata" (p. 537). When the strata assigned to students are used in the statistical analyses, we help control for the preexisting differences between groups.

Propensity scores are calculated by using logistic regression analysis, which predicts dichotomous group membership. In Figure II-2, we show the SAS program used to create propensity scores. To calculate propensity scores, we used students' Grade 3 Hawai'i State Assessment (HSA) Total Reading and Total Mathematics scores, their subsidized lunch status (coded as yes or no), and their ethnicity (coded as Hawaiian/Filipino, Japanese/Caucasian, and Other).[1]

After calculating propensity scores, we used fixed-effects analysis of covariance

```
proc logistic des data=arts.propensity;
class lunch sex ethnicity;
model group = lunch sex ethnicity reading_ss_2004 math_ss_2004;
output out=arts.propensity_logit pred=propscore;
run;

data arts.propensity_strata; set arts.propensity_logit;
if 0<=propscore<=0.20 then strata=1;
if 0.20<=propscore<=0.30 then strata=2;
if 0.30<=propscore<=.50 then strata=3;
if 0.50<=propscore<=60 then strata=4;
if 0.60<=propscore<=1 then strata=5;
run;
```

Figure II-2. SAS program to create propensity score adjustments for between group comparisons on student outcome measures.

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[1] We used this ethnicity categorization for the four largest ethnic groups in the state because children of Hawaiian ancestry and children of Filipinos tend to score similarly, as do Caucasian children and children of Japanese ancestry.

(ANCOVA) to calculate the differences between project and control schools, nested within groups, on student achievement, school attitude, and student interest in the arts, with the appropriate pretest scores and the propensity score as covariates. As we describe in this chapter, we conducted one ANCOVA for each instrument. In ANCOVA, group means of the outcome variable are adjusted to correspond to a common value of the covariates (least square means), thereby producing an equitable comparison of the groups. Thus, ANCOVA is a method of adjusting for the effects of characteristics of the student population over which researchers do not have control. We acknowledge that it is controversial among some statisticians to use ANCOVA to correct for initial group differences; as Elashoff (1969) said, "Covariance analysis can indeed be useful where assignment to groups is not random but the results must be inter-preted with caution" (p. 386). However, given that we had limited control over the schools participating in the study, we needed a way to adjust for group differences. We do not suggest that the analysis entirely eliminates the differences due to non-equivalent groups.

Homogeneity of variance and homogeneity of regression are important assumptions that need to be met for the use of ANCOVA. Homogeneity of variance occurs when the variances of groups are approximately equal; it is verified by a lack of statistical significance between group variances. Homogeneity of regression occurs when the regression coefficients between the covariates and the dependent variable are similar between groups. Violation of the homogeneity of regression assumption is shown by regression lines for the covariates and the grouping variable that cross each other. We tested each of these assumptions and found that they were met for each of our student analyses[2].

We chose not to calculate effect sizes, despite the calls of methodologists for researchers to report them, because the calculation of SAS software for the least square mean statistics, which we used in the analyses of student outcomes, does not produce standard deviations, which are necessary for calculating effect sizes. However, we comment in Chapter III about the size of the differences among means in our discussion of the results of the statistical significance tests.

Student Achievement

To address student achievement, we obtained student scores on the HSA, the HDOE assessment that is administered statewide in the spring of each year. For information about the

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[2] Our assumption of homogeneity of variance and homogeneity of regression tests, respectively, were conducted for reading achievement ($F = 3.71$, $p > .05$ and $F = .24$, $p > .05$); mathematics achievement ($F = .53$, $p > .05$ and $F = .39$, $p > .05$); student attitudes ($F = 1.35$, $p > .05$ and $F = 1.35$, $p > .05$); student interest in drama ($F = 3.72$, $p > .05$ and $F = .05$, $p > .05$); student interest in dance ($F = 3.64$, $p > .05$ and $F = .19$, $p > .05$); student interest in music ($F = 2.40$, $p > .05$ and $F = .69$, $p > .05$); and student interest in visual arts ($F = .11$, $p > .05$ and $F = 2.07$, $p > .05$).

assessment's scoring procedures, reliability, and other psychometric properties, see Appendix B, Section 1 in the project's Year 2 report (Brandon et al., 2005). The number of students who completed both the pretest and the posttest are shown in Chapter III. We compared the project and control group scores using ANCOVA, as described earlier in this chapter.

We also examined reading and mathematics achievement trends graphically. Of the two types of trend graphs, one shows fifth-graders' average scaled scores across a period from the two years before the project began, when the HSA was first administered in the form that it was used throughout the AFWRP project, through the three years of the project. This is a cross-sectional analysis (i.e., a comparison between different groups of students): For each of the project and control groups, it shows the results for cohorts of fifth-grade students across the years. The second trend analysis is a longitudinal analysis: For the project and control group students who were fifth-graders in Year 3, we graphed average scaled scores as third-graders in Year 1 and again two years later as fifth-graders in Year 3. This analysis is possible because scaled scores are comparable across grades.

Student Attitudes Toward School

We assessed students' attitudes toward school with the School Attitude Survey, which is based on the School Attitude Assessment Survey–Revised (SAAS–R) (McCoach & Siegle, 2003). In Appendix C (p. 113), we present our reliability and validity studies for the School Attitude Survey and a copy of the instrument.

We administered the 26-item, 4-point Likert-scale survey to the students in both the project and control group schools in the spring of each of the three project years. We did not collect data in the fall of each year, because student attitudes tend to be affected by the time of year at which data are collected. The number of students who took both the pretest (Spring 2004) and the posttest (Spring 2006) are shown in Chapter III.

In the analyses conducted in the evaluations for the first two years of the project, we found ceiling effects and few differences between groups on the total School Attitude Survey score. These results suggested to us that many of the items were not sensitive to differences between the groups and were unlikely to be sensitive to changes in attitudes over time. Therefore, for the Year 3 evaluation, we used Item Response Theory (IRT) methods to identify the items that differentiated the most among students. (See Appendix C, p. 113). The IRT analysis showed that five items met our criteria for showing differences among students, including

• I am glad I go to this school,

• This is a good school,

- I like being at school,
- I like to learn at school, and
- School is fun

We used total IRT scale scores for these five items as our measure of attitudes for the Year 3 evaluation. Because the focus of the project was to determine changes in student attitudes over the course of the project, our ANCOVA used propensity scores and Grade 3 (Year 1) students' mean attitude ratings as covariates when examining the difference between project and control group students' attitudes toward school at the conclusion of the project.

Student Interest in the Arts

We developed and used the Student Interest in the Arts Questionnaire to assess students' interest in drama, music, dance, and the visual arts. We developed and pilot tested the instrument during the first year of the project (Brandon et al., 2004). In Appendix D (p. 123), we describe our reliability and validity studies for this instrument, and we present a copy of the instrument.

The 26-item, 4-point Likert-scale questionnaire (coincidentally the same number of items as the School Attitude Survey) was administered in the fall and spring of Years 2 and 3 of the project. As we did with the attitude survey items, we used IRT methods to identify the items on the questionnaire that differentiated the most among students, and we calculated total IRT scale scores. (See Appendix D, p. 123) The results of the IRT analyses were consistent across the four art forms. For each of the four art forms, the three items that differentiated among students the most were those about *doing* the art form (e.g., I like to dance), *learning* about the art form (e.g., I like learning about dancing and how to dance) and the extent to which the art form *made the students happy* (e.g., drawing or painting makes me happy).

In the ANCOVA analysis, we used the students' Year 2 (pretest) mean interest-in-the-arts ratings and propensity scores as covariates when analyzing the effects of the program on Spring 2006 ratings (posttest) of interest in the arts. In Chapter III, we present the number of students who completed the questionnaire for each of the two years.

Classroom Implementation of the Arts Strategies

We collected data about the frequency of teachers' implementation of the arts strategies in the classroom and about the quality of the implementation.

Implementation Frequency

We used a weekly teacher log to track the frequency with which the project teachers implemented project activities. We revised the teacher log that we used in the first year of the project, resulting in an online log that was e-mailed to the teachers on the Friday of each week.

We used Remark Web Survey Software to develop and administer the online log. The log tracked the use of the art strategies in the teachers' classrooms over the 28 weeks during which classes were held in the period from August 26, 2005 to May 12, 2006. Teachers recorded the number of times per week, on average, that they used the arts activities across the three underlying arts strategies of observing, patterning, and representing. (We combined music and dance because the project did not teach music separately.) A copy of the teacher log is presented in Appendix E (p. 131).

Implementation Quality

We conducted observations of the 12 Year-3 project teachers as the primary means of examining the quality of the teachers' use of the arts strategies. The purposes of these observations were to (a) develop a method for collecting data on teacher quality in using the arts strategies and to conduct studies of the reliability and validity of data collected with the method, (b) collect data on how well the teachers implemented the project after receiving training for nearly one school year, and (c) correlate the quality results with other outcome variables such as student achievement. Briefly, the process involved developing eight criteria for judging teacher quality, analyzing four judges' ratings of each teacher on each criterion (using 7-point scales), and averaging the results across judges. We provide a detailed description of the development of the observation method, the scoring methods, and the methods and results of our reliability and validity studies, as well as a copy of the observation instrument, in Appendix F (p. 139).

Teachers' Attitudes and Opinions

We collected data on teachers' attitudes toward teaching with the arts and their opinions about several aspects of the project. We collected data only for Year 3 teachers because they implemented the project in its final, evolved form.

Teachers' Attitudes Toward Teaching with the Arts

We assessed the project and control group teachers' attitudes towards using the arts in the classroom with a slightly modified version of the Teaching With the Arts Survey (Oreck, 2001). Our Attitudes Toward Teaching with the Arts Survey addresses four constructs: the importance of the arts, self-efficacy and self-image, support, and constraints. Oreck (2004) validated these constructs using principal component analysis, which is a method for examining the extent to which the responses to questionnaire items cluster statistically in a manner consistent with the constructs that the instrument is intended to measure. A description of our modifications and a copy of the instrument are presented in Appendix G (p. 157).

We administered the 18-item survey to 13 Year-3 project and 12 Year-3 control school

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teachers in the fall of 2005 (pretest) and to 12 project and 16 control school teachers in the spring of 2006 (posttest), and we conducted an ANCOVA[3], with Fall 2005 mean ratings as the covariate, to determine the effects of the program on teachers' Spring 2006 mean ratings.

Teachers' Opinions About the Project

We collected data about the project teachers' opinions on various aspects of the project in focus groups and on a questionnaire.

Focus groups. We conducted a teacher focus group at each project school in December 2005 and again in May 2006. The focus groups were audio-recorded and transcribed for analysis. In the December focus groups, we asked the teachers for their opinions about their PD experience (including the full-day institutes and in-class mentoring sessions), the factors that they believed affected their use of the arts strategies, and the observed effects and overall opinions about the program. In the May focus groups, we asked the teachers about (a) the effectiveness of the full-day and in-class institutes, (b) the aspects of the project that could be improved, (c) the factors that affected use of the strategies, (d) the extent to which the activities improved teaching, (e) the extent to which the teachers thought the arts activities were effective, (f) the extent to which certain types of students benefitted more than others from the activities, and (g) the unintended effects of the project, if any. We reviewed the transcribed interview comments to identify themes within them and summarize the major themes in Chapter III. In this report, we present and discuss only the results for the May focus groups. The December focus group results were used for formative evaluation purposes. We present the transcription of the May focus group results in Appendix H (p. 163).

Questionnaire. We administered the Professional Development Quality Survey to collect project teachers' opinions about various aspects of the project PD, including both the full-day institutes and the in-class mentoring sessions. We administered the 26-item survey to the 11 project school teachers who were present at the final full-day PD session in the spring of 2006. We calculated mean item ratings to examine the extent to which the teachers reported positive experiences with the PD.

In addition to the quantitative items, the survey included a section in which the teachers were asked to respond to three open-ended questions:

1) Based on your experiences this past year, what are the three top lessons you learned about integrating the arts into your classroom curriculum?

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[3] Our assumption of homogeneity of variance and homogeneity of regression tests, respectively, were met for teacher attitudes ($F = 2.29$, $p > .05$ and $F = .08$, $p > .05$).

2)   What are the three most important factors contributing to your decisions about using the arts in your curriculum in the future?

3)   What is your overall opinion of the ARTS FIRST processes and materials?

These questions replaced the eight open-ended questions that we asked on the questionnaire in the first and second years of the study (see Brandon et al., 2004, 2005).

The open-ended responses are presented in Appendix I (p. 171). We summarize them in Chapter III.

Students' Opinions About the Project

We gathered data on the students' opinions about the project in grade-level focus groups in December 2005 and May 2006. The December focus groups were used for formative evaluation purposes. The focus groups were conducted with six students (three boys and three girls) in each Grade 4 and 5 class in each of the three project schools. The focus groups lasted an average of 15 minutes each. The participating students discussed their perceptions of the project, their perceptions of the changes in their teachers' practices, the most and least favorable aspects of the project, and their observations of the overall effects of using the arts in other subject areas. The student focus groups were audio recorded and transcribed for analysis. The transcribed results of the May focus groups are presented in Appendix J (p. 177). We summarize the results in Chapter III.

CHAPTER III
RESULTS

In this chapter, we present the results of the 2005–06 evaluation data analyses. Our interpretation and discussion of the results are provided in Chapter IV.

Student Outcomes

Student Achievement

Between group differences. The results of the ANCOVA showed a statistically significant difference between groups, in favor of the project group, on mean HSA reading achievement scores. (See Tables III-1–2.) The tables show that Lāʻie School accounted for much of the project-control group differences. Kahuku School, a control group site, outscored the other two project schools. In Tables III-3–4, we present the results of the comparison of the two groups' mean HSA mathematics scores, which also show a statistically significant difference between groups, again in favor of the project group. All three project schools slightly outscored the control schools in mathematics.

Trends in student reading and mathematics achievement. In Figures III-1 and III-2, we present figures showing the project and control group trends in mean reading and mathematics scaled scores for cohorts of Grade 5 students. (This is a cross-sectional display; that is, data were analyzed for a different group of fifth-graders each year.) The figures show the trends from 2002, the year in which the HSA was first administered, through the project period (SYs 2003–04 through 2005–06). As seen in Figure III-1, the pattern of reading averages was different between the two groups before the project and more similar afterwards. However, the average reading scores for the project group, which were below the control group's average at the end of Year 1, were higher than the control group's average at the end of the project period. The pattern of mathematics score averages was different between the two groups across all five years, with the project group again outscoring the control group at the end of the project. (See Figure III-2.)

In Figures III-3 and III-4, we show reading and mathematics scores for our longitudinal analysis—that is, for the group of students who we tested in both Grade 3 (Year 1) and Grade 5 (Year 3). The figures reflect graphically the results of the statistical tests: The project group outperforms the control group. The project group mean scores do not improve over time, but the control group mean scores decrease, resulting in the favorable finding for the project group.

Table III-1

Grade 5 Student Reading Achievement: ANCOVA results, with Year 1, Grade 3 Reading HSA and Strata as Covariates

Source	df	Type III SS	F Value	Pr > F
Grade 3 Reading	1	838382.34	544.28	<.001
Strata	4	8858.54	4.68	.001
School(group)	5	2156.34	2.80	.018

Table III-2

Least Square Mean Values for Project and Control Groups Grade 5 HSA Reading

School	Group	LS means
Lāʻie	project	291.82
Parker	project	274.97
Keolu	project	269.41
Kahuku	control	283.30
Heʻeia	control	268.22
Kaʻaʻawa	control	272.32

Project *N* = 113, Control *N* = 167

Table III-3
Grade 5 Student Mathematics Achievement: ANCOVA results, with
Year 1, Grade 3 Mathematics HSA and Strata as Covariates

Source	*df*	Sum of squares	*F*	*p*
Grade 3 mathematics	1	653728.58	589.49	<.001
Strata	4	11658.62	2.63	.035
School(group)	5	18396.85	3.32	.006

Table III-4
Least Square Mean Values for Project and
Control Groups Grade 5 HSA Mathematics

School	Group	LS means
Lāʻie	project	240.28
Parker	project	234.82
Keolu	project	262.82
Kahuku	control	229.50
Heʻeia	control	234.51
Kaʻaʻawa	control	232.45

Project *N* = 113, Control *N* = 167
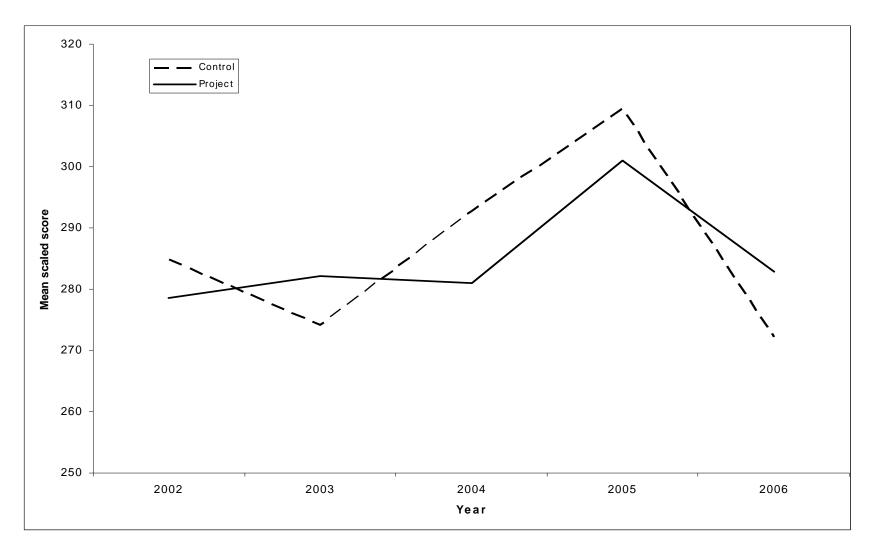
Figure III-1. Cross-sectional analysis of mean Grade 5 reading scores for the three years of the AFWRP project and the previous two years.
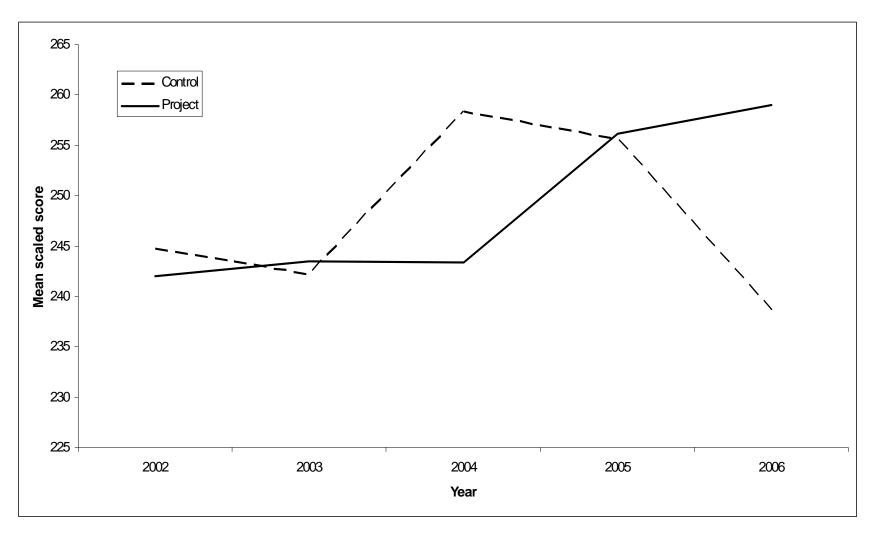
Figure III-2. Cross-sectional analysis of mean Grade 5 mathematics scores for the three years of the AFWRP project and the previous two years.
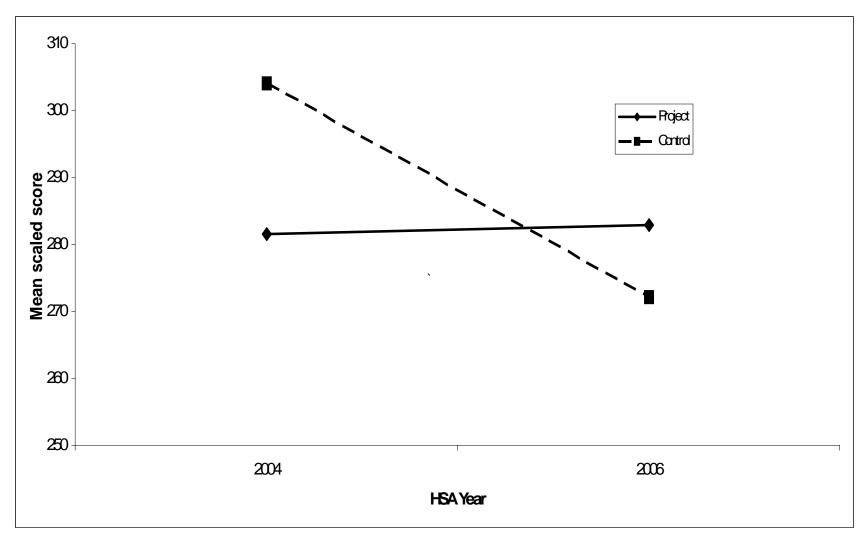
Figure III-3. Longitudinal analysis of mean Hawaiʻi State Assessment reading scores for AFWRP students and control group students when they were in Grade 3 in 2004 and in Grade 5 in 2006.
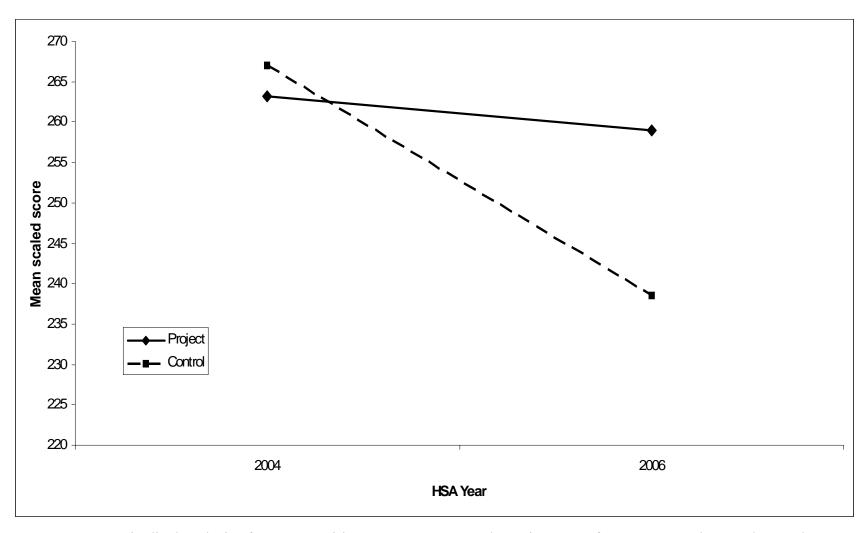
Figure III-4. Longitudinal analysis of mean Hawai'i State Assessment mathematics scores for AFWRP students and control group students when they were in Grade 3 in 2004 and in Grade 5 in 2006.

Students' Attitudes Toward School

In Tables III-5 and III-6, we present the results of the analysis of the IRT scores on the items of the School Attitude Survey that discriminated the most among students. We show *least square means* (labeled as *LS means*), which are the appropriate average for comparisons between schools of different sizes. As seen in the table, there was a statistically significant difference between groups, with the project group students showing higher scores ($df = 5$, $F = 3.18$, $p <$ .05). Similar to the reading achievement results, Lāʻie School scored the highest and Kahuku School outscored the other two project schools.

Students' Interest in the Arts

In Tables III-7–14, we present the results of the analyses for students' interest in the four art forms and their respective least square means (drama, dance, music, and visual arts respectively). The differences between groups were statistically significant for dance and music but not for drama and the visual arts. The pattern of results was similar to those for the other outcomes, with Lāʻie School scoring the highest of the project schools (except for drama) and Kahuku School scoring the highest of the control schools and higher than the other two project schools (except for drama).

Classroom Implementation of the Arts Strategies

Implementation Frequency

In Table III-15, we present the results of the use of the arts strategies for three art forms (drama, dance, and visual arts) across the 12 participating teachers in Year 3. As seen in the table, the drama and dance art form strategies were used the most. None of the strategies were used frequently, however: The mean number of activities used each week was only about one-half an activity.

Implementation Quality

We calculated the mean rating across the eight quality criteria for each judge, resulting in four means for each teacher (one for each judge). Then we averaged the mean ratings across judges, resulting in an *Overall Quality Score* for each of the 12 teachers. The means are seen in Table III-16. As shown in this table, the quality scores ranged across judges from somewhat below an acceptable level of quality (1.67) to somewhat above a good level of quality (3.27), with a mean across teachers of 2.52 (st. dev. = .52), indicating an overall project level of quality midway between acceptable and good. The average ratings of Judges 1 and 4 (2.30 and 2.25, respectively), who showed the greatest consensus and consistency among judges, were considerably less than the average ratings for the other two judges (2.70 and 2.81).

Table III-5
School Attitudes Toward School Survey: ANCOVA results, with
Year 1, Grade 3 Pretest and Strata as Covariates

Source	*df*	Type III SS	F Value	Pr > F
Grade 3 Pretest	1	12.38	29.74	<.001
Strata	4	3.23	2.59	0.055
School(group)	5	6.61	3.18	0.009

Table III-6
Least Square Mean Values for Project
and Control Groups Grade 5 School
Attitude

School	Group	LS means
Lā'ie	project	1.411
Parker	project	1.264
Keolu	project	1.259
Kahuku	control	1.403
He'eia	control	.979
Ka'a'awa	control	.921

Project $N = 103$, Control $N = 159$

Table III-7
Student Interest-in-the-Arts Questionnaire, Drama:
ANCOVA results, with Year 1, Grade 4 Pretest and Strata as Covariates

Source	*df*	Type III SS	F Value	Pr > F
Grade 4 Pretest	1	.16	.26	.608
Strata	4	1.68	.68	.605
School(group)	5	2.99	.98	.435

Table III-8
Least Square Mean Values for Project and
Control Groups Grade 5 Drama

School	Group	LS means
Lāʻie	project	.120
Parker	project	.196
Keolu	project	-.262
Kahuku	control	-.121
Heʻeia	control	-.094
Kaʻaʻawa	control	-.247

Project *N* = 97, Control *N* = 140

Table III-9
Student Interest-in-the-Arts Questionnaire, Dance: ANCOVA
results, with Year 1, Grade 4 Pretest and Strata as Covariates

Source	df	Type III SS	F Value	Pr > F
Grade 4 Pretest	1	.08	.13	.715
Strata	4	3.55	1.92	.130
School(group)	5	9.40	3.04	.012

Table III-10
Least Square Mean Values for Project
and Control Groups Grade 5 Dance

School	Group	LS means
Lāʻie	project	.923
Parker	project	.516
Keolu	project	.194
Kahuku	control	.643
Heʻeia	control	.383
Kaʻaʻawa	control	-.056

Project N = 97, Control N = 140

Table III-11
Student Interest-in-the-Arts Questionnaire, Music:
ANCOVA results, with Year 1, Grade 4 Pretest and Strata as Covariates

Source	df	Type III SS	F Value	Pr > F
Grade 4 Pretest	1	.06	.15	.703
Strata	4	1.33	1.03	.381
School(group)	5	6.49	3.03	.013

Table III-12
Least Square Mean Values for Project and
Control Groups Grade 5 Music

School	Group	LS means
Lāʻie	project	.952
Parker	project	.583
Keolu	project	.392
Kahuku	control	.957
Heʻeia	control	.745
Kaʻaʻawa	control	.240

Project *N* = 97, Control *N* = 140

Table III-13
Student Interest-in-the-Arts Questionnaire, Visual Arts:
ANCOVA results, with Year 1, Grade 4 Pretest and Strata as Covariates

Source	*df*	Type III SS	F Value	Pr > F
Grade 4 Pretest	1	.731	1.21	.274
Strata	4	1.754	.96	.412
School(group)	5	2.218	.73	.601

Table III-14
Least Square Mean Values for Project and
Control Groups Grade 5 Visual Arts

School	Group	LS means
Lāʻie	project	.585
Parker	project	.197
Keolu	project	.434
Kahuku	control	.490
Heʻeia	control	.324
Kaʻaʻawa	control	.518

Project $N = 97$, Control $N = 140$

Table III-15

Average Use of Arts Strategies Per Week (9/26/05–5/12/06, 28-weeks) Across Three Art Forms.

| | Art Strategy | | | | | | | | | | | | |
| | Observing[1] | | | | Patterning[2] | | | | Representing[3] | | | | Grand Total |
Teacher	Drama	Dance	Visual Arts	Total	Drama	Dance	Visual Arts	Total	Drama	Dance	Visual Arts	Total	
1	.17	0	.83	.33	.43	.14	.14	.24	.20	0	.33	.18	.25
2	3.17	1.83	1.17	2.06	4	9.71	.29	4.67	.73	.47	0	.4	2.38
3	7.50	1	.83	3.11	1.29	0	0	.43	.40	.07	0	.16	1.23
4	.17	0	1	.39	.43	.14	.29	.29	.33	0	.33	.22	.3
5	0	.17	.67	.28	0	0	1	.33	0	0	.20	.07	.23
6	3.5	.17	.17	1.28	.57	.14	0	.23	0	.47	0	.16	.56
7	1.17	.50	2	1.22	1.29	0	.14	.48	.33	.27	.13	.24	.65
8	1.5	1.5	0	1	0	0	0	0	.27	.13	0	.13	.38
9	.17	0	.17	.11	0	0	.86	.29	0	.07	.27	.11	.17
10	.17	.5	0	.22	.14	.29	.14	.19	.20	.07	0	.09	.17
11	0	.33	0	.11	0	0	.14	.05	0	0	.33	.11	.09
12	.67	.83	0	.5	.71	.57	0	.43	.20	0	0	.07	.33
Total	1.5158	0.5692	0.57	0.8842	0.7383	0.9158	0.25	0.6358	0.2217	0.1292	0.1325	0.1617	0.5617

[1] Focus of activities for six-week period
[2] Focus of activities for seven-week period
[3] Focus of activities for 15-week period

Table III-16
Four Judges' Overall Quality Scores (Mean Criterion Ratings) of 12 Teachers' Quality

Teacher	J1	J2	J3	J4	Mean
1	3.00	3.63	3.25	3.00	3.22
2	3.13	2.25	3.69	2.00	2.77
3	1.31	2.56	2.94	1.63	2.11
4	2.94	3.81	2.94	3.38	3.27
5	2.06	2.69	3.06	2.44	2.56
6	2.81	2.81	2.44	2.94	2.75
7	1.38	2.56	1.81	1.81	1.89
8	2.13	2.06	1.88	1.88	1.98
9	1.5	1.50	1.94	1.75	1.67
10	2.75	3.19	3.44	2.38	2.94
11	1.94	2.44	3.44	1.75	2.39
12	2.69	2.94	2.94	2.00	2.64
Mean	2.30	2.70	2.81	2.25	2.52

As we report in the section about criterion-related validity in Appendix F (p. 139), the results of an analysis of the correlations of Overall Quality Scores with teachers' mean ratings of their attitudes toward teaching with the arts, after partialling out their beginning teaching attitudes, showed a correlation of only .32, suggesting a slight relationship that is not particularly meaningful.

<div align="center">

Teachers' Attitudes and Opinions

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Attitudes Toward Teaching With the Arts

In Table III-17, we show results for the project and control group teachers on the Attitudes Toward Teaching with the Arts Survey. As seen in the table, project teachers' mean ratings were slightly higher for both the pretest and the posttest. The results of the ANCOVA show that there was no statistically significant difference between the two groups' mean attitudes toward teaching with the arts ($df = 1$, $F = .97$, $p > .05$) in the spring of 2006 after adjusting for Spring 2005 scores.. The 2005 pretest accounted for a statistically significant amount of the variance in

Table III-17
Descriptive Statistics for Year 3 Teachers' Attitudes Toward Teaching with the Arts Survey

Group		N	Mean	St dev.
Project	Fall 2005	13	4.07	.63
	Spring 2006	12	4.48	.52
Control	Fall 2005	12	3.79	.77
	Spring 2006	16	4.05	.84

the Spring 2006 posttest mean ratings ($df = 1$, $F = 15.93$, $p < .01$), showing that beginning attitudes affected ending attitudes more than intervening events.

Opinions Expressed in the Teacher Focus Groups

The results of the May 2006 teacher focus groups are summarized below by topic. The transcribed results are presented in Appendix H (p. 163).

The effectiveness of the full-day PD institutes in teaching arts activities. In response to the question about the effectiveness of the full-day PD institutes, teachers overwhelmingly stated that they found the examples and the hands-on activities presented in the institutes to be most effective. For example, a teacher said

> It was helpful to go practice it once at a workshop before we actually did it with the kids. So I kind of understood better what I was doing and sometimes when you see it in black and white, it's not always easy to understand and visualize, especially with the arts. But when you do it, then you get it better.

One teacher also commented about the quality of the materials. Two teachers stated that the activities were not realistic either due to time it takes to implement or the preexisting skill level of the students in the class.

The effectiveness of the in-class mentoring in teaching arts activities. In response to our question about the effectiveness of the in-class mentoring component of the PD, the prevailing theme in the comments was that the teachers believed that (a) the lesson planning with the mentors was effective, (b) the mentoring helped with the application of the lessons, and (c) the mentoring increased their confidence in using the arts to teach.

Suggestions about program improvements. The most frequent response the teachers gave about any changes or improvements that could be made to the program was that they would have

liked to have had greater exposure to other arts activities. This response was primarily due to the fact that each of the teachers focused on one of the art forms (drama, dance, or visual art) for the last half of the project year, in part so that they could master the art activities for quality measurement purposes. For example, a comment was,

> Yeah, the four video tapings that we did, it would have been nice if it didn't have to be the same type of lessons each - for each of the tapings. Because it got kind of tedious for some of the kids and then for us because we were doing the story it was hard to find something that would fit. You're finished with the story already and move on to the next story.

The teachers acknowledged that they were exposed to the various art forms during the full-day institutes, but they would have like to have had some in-class mentoring that exposed them to the other art forms besides the one that they focused on. The teachers also stated that increased planning and guidance on the part of the mentors would have benefitted them greater. Additionally, one teacher felt that learning fewer activities for each art form and greater focus, which was due in part to other classroom constraints, would be helpful with implementation. Another teacher thought that brief strategy "synopses" would be helpful to remind them about how to use each strategy rather than having to review a whole strategy lesson plan.

The contextual aspects that affected teachers' use of the arts activities. The aspect of school context that the teachers believed had the greatest effect on their use of the arts activities was the lack of time, including the time needed for planning for the activities. Teachers also commented that their school curricula tended to constrain their use of the activities.

Improvement in teaching quality. The teachers' responses suggested that they felt that the project activities improved their overall teaching quality. They made a wide range of comments about how the project provided them with teaching strategies that (a) produced greater student involvement; (b) increased teacher-student inquiry; and (c) provided more in-depth lessons to teach the students.

The effectiveness of arts activities. Overall, the teachers thought that the arts activities were effective. Teachers commented about how the arts activities provided greater student involvement, addressed different student learning styles, and created more in-depth student understanding. For example, one teacher commented about the power of the drama activities:

> Oh, the drama really helps with it. Some of the stories are hard for the students to understand because they either just don't have the background knowledge, or they just can't comprehend. They don't know the characters or the setting or whatever it is and the drama really helps with that one.

The types of students who benefit most from the activities. Several of the teacher comments

suggested that the arts activities benefitted the lower achieving students and also helped some of the shy students to participate more. Overall, the teachers' comments suggest that the activities increased student confidence across the board and also provided greater excitement about what they were learning. For example, a teacher said, "It gives everyone more confidence in being in front of an audience." Another teacher commented about how the arts activities increased general art understanding:

> So for my class it seemed like it was just learning the art that was the ah-ha's and the fun part of it not even worrying about it connecting to anything else...cause in order to do Vanishing Point we had to use the ruler to do the railroad tracks and they were struggling with it but that wasn't a problem because they were learning something about art and they really enjoyed that.

The teachers' opinions about the unintended consequences of the project. The teachers' comments about the unintended effects of the project varied widely. Several of the teachers' comments indicated that they noticed an increase in the students confidence, which to them was an unintended effect. One teacher commented that they felt that the project gave the students something to look forward to and that it was important for their attitudes. One teacher also noticed that the activities seemed to increase student focus on details:

> Maybe I believe what it does do is it increases their heightened sense of detail. In arts there's a lot of emphasis on detail and it really helps kids to look at the small picture; you know the small parts of a picture rather than just cruising through the main idea. So I think it has brought in detail in reading, writing, and math a little bit more to the forefront, which is good. I think that will start improving scores.

Several of the teachers did not make any comments about the unattended consequences as a result the project.

Teachers' Attitudes Toward the Project PD

The descriptive statistics for the Professional Development Quality Survey for Year 3 teachers are shown in Table III-18. As seen in this table, the teachers reported an overall high level of satisfaction with their professional development experience (mean = 5.18 on a 1–6 scale).

The transcribed results of the open-ended questions to the Professional Development Quality Survey (shown in Appendix I, p. 171) addressed (a) the aspects of the program that the teachers thought were most important, (b) the factors that affect decisions to use the arts in the classroom, and (c) the quality of the ARTS FIRST process and materials. The responses to Question 1 from ranged from the specific strategies that were used the most to the perceived value of using the arts. Four of the 11 teachers who responded listed the specific strategies that were used most

Table III-18

Professional Development Quality Survey Descriptive Statistics for Year 3, Spring 2006

Item[a]	Mean[b]	St. dev.	S.e.$_M$
1. To what extent were the issues explored in the ARTS FIRST seminars relevant to your professional responsibilities?	5.42	.79	.23
2. To what extent were the instructors of the seminars knowledgeable and helpful?	5.92	.29	.08
3. To what extent did you have adequate opportunities to explore the theory and the supporting research about the benefits of integrating the arts into the curriculum?	4.83	1.11	.32
4. To what extent did the instructional techniques facilitate your learning?	5.75	.45	.13
5. To what extent was the content discussed in the ARTS FIRST workshops *confusing* to you?	4.67	1.23	.36
6. To what extent was the leader or group facilitator well prepared?	5.83	.39	.11
7. To what extent does integrating the arts into the curriculum address an important need?	5.42	.79	.23
8. To what extent was the session leader credible?	5.92	.29	.08
9. To what extent did the professional development sessions *fail* to create a climate of professional community?	5.08	1.93	.56
10. To what extent did you have access to all the necessary materials and resources?	4.75	1.29	.37
11. To what extent were the strategies presented by the seminars and the in-class mentoring sessions *difficult* to understand?	5.08	1.24	.36
12. To what extent did the materials enhance your learning?	5.25	.62	.18
13. To what extent was the content of the professional development *irrelevant* to your classroom?	5.17	1.40	.41
14. To what extent were the activities in which you engaged carefully planned and well organized?	5.67	.49	.14
15. To what extent was your time well spent?	5.50	.67	.19
16. To what extent were the goals and objectives *vague* when you began the ARTS FIRST project?	4.17	1.80	.52
17. To what extent did the professional development sessions include collaborative discussion about professional practices?	5.42	.67	.19
18. To what extent was your understanding of the arts enhanced as a result of the workshops?	5.58	.51	.15
19. To what extent were new practices *rushed* and *not* thoroughly explained?	4.42	1.62	.47
20. To what extent did the professional development sessions support opportunities to network and learn from colleagues?	5.50	.67	.19
21. To what extent was *insufficient* time provided for the completion of the tasks?	4.50	1.09	.31
	5.45	.78	.23
22. To what extent will the strategies you learned be useful to you?	5.25	.75	.22
23. To what extent was time organized efficiently and effectively?	5.75	.45	.13
24. To what extent were the activities relevant to the purpose of the project?			
25. To what extent will you be able to apply the strategies you learned in the seminars and mentoring sessions?	5.17	.72	.21
	5.67	.65	.19
26. To what extent did your experience include a variety of learning activities?	5.18	.37	.11
Total			

[a] Items 5, 9, 11, 13, 16, 19, 21 were reversed coded for analysis.
[b] Teachers responded to a 1–6 scale.

often, including tableau, auto-image, pantomime, and scene building. The remaining seven teachers discussed in more general terms the lessons they learned when using the arts. The responses primarily indicated that the teachers learned that they could use the arts to increase student motivation and confidence in learning, that their students retained more information and understood concepts better, and that using the arts reached all types of students. The teachers overwhelmingly agreed that their future use of the arts was based on the excitement that the children displayed when they used the strategies. Other comments were (a) that the use of the arts was the only way that they could reach some of students, (b) that creativity was fostered as a result of using the arts, and (c) that the arts provided a community bond within the classroom.

The teachers' responses to the question about their overall opinion about the program showed consistently positive reactions. Several teachers described how the ARTS FIRST project enhanced their teaching ability and stated that they were generally excited with the opportunity to bring the arts back into the curriculum. Other teachers gave examples of how using the arts has enhanced student learning by creating an enjoyable environment that increases student motivation. Some teachers referred to the artist mentors as the major catalyst in their confidence in, and understanding of, the program.

Students' Opinions about the Project

In the student focus groups (see Appendix J, p. 177), the students made general comments about how the use of the arts in their classes helped them understand their reading and mathematics assignments better. Overall, students' responses indicated a high level of satisfaction with the program. Interestingly, several of the students observed that the project helped to balance out student understanding and use of the arts in the class. That is, some students noticed that their classmates seemed to show an increase in their arts ability (e.g., draw better) as a result of the project. Along these lines, students observed that their classmates' confidence with doing the arts, as well as comfort with presenting their work, increased over the course of the project. When asked about the aspects of the program that they enjoyed the least, the students commented on being embarrassed at the beginning, or during specific activities (e.g., drama), as well as bad behavior from classmates during the lessons that involved the arts, which was similar to what was found in Year 2 of the project. Some students also commented that they were sad that the program was ending because they looked forward to the arts-based activities provided by the artist mentors and their teachers.

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CHAPTER IV
DISCUSSION

In this chapter, we summarize and interpret the evaluation's results that we present in Chapter III, as well as some of the results from our informal observations of the project.

What Can We Conclude About the Effects of the Program on Students?

Student Achievement

The evaluation results show a statistically significant difference between the project and control groups' reading achievement, with Lāʻie School showing by far the strongest effect. The high ranking of this school on the achievement results is consistent with its results on most of the other student outcome measures.

A caveat in interpreting the reading results is that Lāʻie School, which was classified under No Child Left Behind guidelines as needing restructuring, had implemented the Success for All (SFA) program during the project period. This is a potential threat to the validity of the findings (known as a *history* threat) because SFA has been shown in rigorous research to have positive effects and, we speculate, might account for the school's superior performance. However, a counterargument to this point is that Lāʻie School ranked high among the schools on three of our four measures of student interest in the arts—a finding that we do not think is likely to be due to SFA. The consistent high ranking of the school suggests that the project might have affected its evaluation results, including achievement.

We conclude that the results of this evaluation tentatively suggest that the project positively affected students' reading achievement, particularly at Lāʻie School. We say that the results are *tentative* because there is no way to know with certainty how much SFA or other programs might have affected the results.

The mathematics results also show a statistically significant difference between the two groups' mean scores. The reading results show that one control school outperformed two project schools; in contrast, the mathematics results show that all three project schools outperformed the control schools (although slightly). This finding is consistent with the comment of some teachers who indicated that the arts activities were effective in mathematics instruction.

A known threat to the validity of our conclusions about achievement and all other quantitative measures is that the statistical power of our study is low, despite having added propensity scores and pretest scores as covariates. If resources were unlimited and more schools were available as study sites, we would not have examined the project in only three schools, with three control schools, because these numbers are too low for statistical reasons. The fact that we found

achievement differences (as well as differences in attitudes and interest in some of the art forms, as discussed below) suggests that the validity threat due to the low number of schools was not as potent as we had feared.

It might be argued that the low frequency with which the activities were implemented, as indicated in the teacher log results, suggests that the project was not implemented fully enough to have had a notable effect on achievement. This conclusion would make us suspect that the positive findings were not due to the project. However, even though the frequency of reported use of the activities was low, we know through conversations with the teachers that use was somewhat underreported. Therefore, although it is likely that the teachers used the activities on fewer occasions than desirable, we reject the hypothesis that they were not used enough to show an effect. They might have shown greater effects if they had been used more, but we believe that they were used enough to account for the small differences between groups.

Students' Attitudes Toward School

We know from the evaluations for Years 1 and 2 that the project and control students' attitude scores were high, suggesting a measurement ceiling effect that reflects the fact that most students are positive about school until their late elementary school or early middle school years. The result of the ceiling effect is that changes in attitudes might be difficult to measure and unresponsive to the effects of add-on programs such as AFWRP. This is a potential threat to the validity of the data collected for this study and of the conclusions reported here.

To ameliorate this validity threat as much as possible, we calculated and examined IRT scores this year. The IRT scaling allowed us to use the items that differentiated the most among students and to measure attitudes more precisely than with raw scores. The attitude findings for Year 3 show that the project group's IRT score mean is slightly higher than the control group's mean at a statistically significant level. This is mirrored by the qualitative results for the teachers and students, which indicate that the attitudes toward school of some of the students improved during the project. These results are consistent with the achievement results and suggest that the project had a slightly positive effect on the schools.

Sometimes repeated administration of instruments is a threat to the validity of data and conclusions, because children become sensitized to instruments. We do not believe that this is the case in our study, because the attitude instrument was administered only once a year, and because this validity threat is more likely with an achievement test than an attitude instrument. Furthermore, we do not believe that it is likely the students answered in a socially desirable manner, because they had no reason to want to please the evaluators. Finally, we administered

the instrument only in the spring (not in the fall and spring) so that there would be no effect due to the time of the school year.

Another potential validity threat is differential maturation among students. This was eliminated in our study by comparing project students with students at control schools that were matched demographically before the study. We had no reason to believe, nor did we identify any reason during the study, that the project and control groups matured at different rates.

Students' Interest in the Arts

Our measurement of student's interest in the arts addressed each of the four art forms that AFWRP covered. As was the case with the results on the attitude survey, we found in the evaluations for the first two years of the project that students scored high on the interest instrument. To adjust for this ceiling effect, we used IRT scaling, as did with the attitude survey results. We administered the instrument in the fall and the spring—periods of the school year that were far enough apart not to be a validity threat. (We did not administer it in the manner of the attitude survey, which we gave to the students only in the spring, because we had no reason to believe that children's interest in the arts depends on the period of the school year at which it is measured. Also we were interested in identifying the project's effects on students' arts interest over the course of a school year.)

The results for dance showed a statistically significant difference between the groups' interest in dance, with Lāʻie School showing the largest mean scores. This is consistent with the school's and the school community's focus on dance. (The school is near the Polynesian Cultural Center, where some of the children's parents perform, and it is in a community where dance is valued, particularly hula and other Polynesian forms.) This might explain the receptivity to the use of dance activities to teach reading and mathematics.

We also saw a significant difference between groups on interest in music, however with the control group outscoring the project group. The two control group schools and the one project group school that had the highest mean scores (as we know from our familiarity with the schools) had regular music classes outside of their normal class periods. In contrast, at the other schools, regular classroom teachers had the responsibility of teaching music. The extra attention given to music might have affected the results on our instrument. Furthermore, as with dance, Lāʻie and Kahuku Schools, which are in high Hawaiian/part-Hawaiian and Polynesian population areas, had the highest mean scores.

The results for drama indicated no statistical significance between groups. We are puzzled by this result, because the results of the teacher implementation logs and teacher focus groups

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showed that drama activities were used more than the other activities. Furthermore, several of the teacher comments indicated that they believed that the drama activities provided powerful techniques for teaching. A clue to these findings might lie in the comments of students in the focus groups, who indicated that the students were least comfortable with the drama activities.

We found no significant difference between groups' interest in the visual arts. The results for this art form were the most similar among the project and control schools. This might reflect the fact that the visual arts were the last form that AFWRP introduced, or it might reflect the considerable use that elementary school teachers traditionally and regularly make of the visual arts in teaching.

What Can We Conclude About the Effects of the Program on the Teachers?

Implementation Levels

Our study of the frequency of implementation showed little use of the arts strategies (although, as stated earlier, the actual frequency was probably underreported) and a lower than desired level of teaching quality. The teachers may have had praise for the activities, as shown in their focus group comments, but this perspective is not reflected in the frequency or the quality of their use of the activities. These disappointing implementation results suggest that the project personnel have a long way to go in convincing teachers of the value of the full and proper use of the arts activities. Considerably more attention needs to be paid in the project PD and mentoring to encouraging the teachers to use the activities regularly and with greater fidelity to the methods. Project personnel have already taken this lesson to heart and have taken steps to encourage more frequent and more faithful use of the activities in a research project that has followed AFWRP.

The teachers' focus group results indicate that the constraints of the curriculum and the focus on structured reading programs that have been implemented to improve student test scores contributed, at least in part, to the teachers low level of implementation. We suggest that ARTS FIRST personnel should address directly how the strategies can be implemented with specific school curricula.

The correlation of the teacher quality ratings with the teachers' attitudes toward teaching with the arts suggests a slight relationship between implementation and teacher outcomes in our study. However, we did not find this relationship between implementation and student outcomes. This might be because of the ceiling effect on the student attitude and interest measures. Perhaps the lack of variation in student outcomes made it difficult for other variables to show correlations with the outcome data. Furthermore, it is possible that the relationship between quality and

implementation is not strong enough to show a relationship with outcomes under the best of circumstances. It is unknown how much we can expect the level of quality of using the arts to teach reading and mathematics to show a statistical relationship with other data.

Finally, the development and use of the teacher quality criteria occurred at a time in the evolution of the theory and methods of the project when the integration model and its manifestation in the PD and in the classroom had substantially jelled. Until that point, however, the project personnel had not systematically identified, defined, and described a short and explicit list of quality criteria and trained the teachers in the criteria. The lack of clear and thorough explication of the criteria to the teachers might be showing its effects in the quality ratings.

Teacher Attitudes

The teachers' comments about the project PD were generally positive, but they noted that (a) the time necessary to implement the arts activities was an obstacle to full and frequent use and (b) they thought that the activities might not be sufficient to affect outcomes. We believe that these two comments might reflect a lack of the teachers' commitment to using the activities frequently and well; if they were committed, we believe, they would find the time to implement them and they would believe that they could be effective. This lack of commitment in turn probably reflects the need for improvement in the project PD and monitoring, as we noted above.

What Recommendations for Future Projects Might Be Made?

In discussions with project personnel and by observing project PD and other sessions, we have come to believe that at least four steps should be taken to improve the project. First, the project should identify the most effective strategies that the teachers are likely to implement. Given the struggle that the project had in getting teachers to use the strategies well, attention to those activities that are believed to be the most effective is likely to be the most cost-beneficial means to improving student outcomes. HAA personnel have already adopted this recommendation in their current research project, in which the lessons of AFWRP are being applied. Second, the project should take steps to ensure that implementation levels be increased. They should emphasize explicitly to teachers throughout the PD and in the mentoring sessions that the strategies are not likely to be effective unless they are used frequently. Furthermore, the teachers need to understand from the beginning of their participation that they will not become comfortable, adept, and versatile with the arts activities unless they use them frequently. Third, the project trainers and mentors should provide instruction in how to identify problems in using the activities. Common glitches in using the activities should be identified, and rules of thumb of how to address them should be provided. The difficulty of implementing the activities in

structured reading programs should be addressed. The teachers need to engage in formative self-assessment so that they can monitor their use of the activities and make improvements and adjustments when necessary. Finally, and most fundamentally, the project developers, managers, and mentors should be clear about the theoretical model that they are using. Is it a connection model, as our review of the research suggests, instead of an integration model? What activities are intended to lead to what effects—that is, what might a *program logic model* look like? What do teachers need to understand about the model to guide them when they encounter difficulties in using the strategies? How are the pedagogical techniques used in the project different from other forms of good teaching, and what do teachers need to know about these differences and similarities?

The AFWRP project shows great promise; as suggested in the literature, the arts can affect student achievement. Furthermore, the project might enhance the use of the arts in general, thereby countermanding the inattention given to the arts because of the mandate of the No Child Left Behind Act to focus heavily on reading and mathematics. Thus, the project has the potential to accomplish the twin commendable goals of improving reading and mathematics while increasing the attention to the arts.

We have tentatively concluded in this study that the arts activities used in the project had a small effect on student outcomes and that the AFWRP arts activities were well-received by the teachers and students. However, the between-group differences on the outcome measures were slight, and the teachers did not use the activities frequently enough or well enough. Based on our observations, discussions, and formal evaluation results, we believe that addressing the recommendations that we have made here will help the project improve and achieve the desired, intended level of effects. If the recommendations are not adopted, or if others are not identified and followed, it is likely, we believe, that the project is at risk of being perceived as insufficiently useful to continue in the schools.

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APPENDIX A

Description of Participating Project and Control Schools

Project Schools:
Lā'ie Elementary, Ben Parker Elementary, and Keolu Elementary

Laie Elementary School

School Code: 319

Grades K-6

Focus On Standards

This School Status and Improvement Report has been prepared as part of the Department's education accountability system to provide regular, understandable accounts of our schools' performance and progress, as required by §302A-1004, Hawai'i Revised Statutes.

This report describes the school and its setting; provides information about the school's administrators, teachers, students and facilities; summarizes progress made based on the school's improvement plan, and reports student achievement results along with other vital signs.

School Description

Laie Elementary School, LES, is located on the north shore of the island of Oahu. Our student population averages over 620 students in K-6. Our students come from culturally diverse backgrounds. Approximately 80% of our students are Pacific Islanders and 20% Caucasian. LES is in a high poverty area. 70% of our students qualify for free or reduced priced meals.
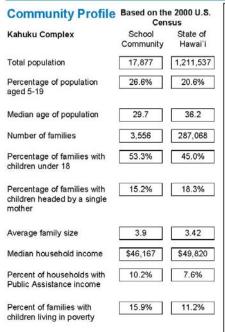
Laie Elementary School is a Title I school, that is a school in "good standing, unconditional" under NCLB guidelines. Our school made AYP this school year and is a major accomplishment for the entire school community. Our school is making tremendous gains in achievement in both reading and mathematics. Our school implemented the SFA-Success For All reading program which has helped our students excel. Students are assessed every eight weeks and placed in small reading groups. We also implemented a math block and targeted interventions to address the needs.

Note. School description is from school year 2004-05; current description was not submitted.

Contents

School Address:

Laie Elementary School
55-109 Kulanui Street
Laie, Hawaii 96762

School Setting

Student Profile

School year	2003-04	2004-05	2005-06
Fall enrollment	601	605	599
Number and percent of students enrolled for the entire school year	545 / 90.7%	570 / 94.2%	560 / 93.5%
Number and percent of students receiving free or reduced-cost lunch	395 / 65.7%	400 / 66.1%	373 / 62.3%
Number and percent of students in Special Education programs	36 / 6.0%	36 / 6.0%	42 / 7.0%
Number and percent of students with limited English proficiency	45 / 7.5%	52 / 8.6%	54 / 9.0%
Percent of Kindergartners who attended preschool	--	79%	78%

Student Ethnicity, School Year 2005-06

Ethnicity	Number	Percent
Native American	1	0.2%
Black	3	0.5%
Chinese	11	1.8%
Filipino	9	1.5%
Hawaiian	51	8.2%
Part-Hawaiian	139	22.4%
Japanese	4	0.6%
Korean	6	1.0%
Portuguese	0	0.0%
Hispanic	11	1.8%
Samoan	174	28.1%
White	122	19.7%
Indo-Chinese	2	0.3%
Other	87	14.0%

n = 620

Community Profile
Based on the 2000 U.S. Census

Kahuku Complex	School Community	State of Hawai'i
Total population	17,877	1,211,537
Percentage of population aged 5-19	26.6%	20.6%
Median age of population	29.7	36.2
Number of families	3,556	287,068
Percentage of families with children under 18	53.3%	45.0%
Percentage of families with children headed by a single mother	15.2%	18.3%
Average family size	3.9	3.42
Median household income	$46,167	$49,820
Percent of households with Public Assistance income	10.2%	7.6%
Percent of families with children living in poverty	15.9%	11.2%

Community Educational Attainment Level

	State of Hawai'i	School Community
College Graduate	26.2%	27.5%
Some College	29.9%	31.0%
High School	28.5%	25.9%
Less than High School Graduate	15.4%	15.6%

■ State of Hawai'i □ School Community

School Resources

Certified Staff

Teaching Staff

Total Full-Time Equivalent (FTE) `34.5`

Regular Instruction, FTE	72.5%	25.0
Special Instruction, FTE	11.6%	4.0
Supplemental Instruction, FTE	15.9%	5.5

Teacher headcount	36
Teachers with 5 or more years at this school	26
Teachers' average years of experience	15.1
Teachers with advanced degrees	6

Professional Teacher Credentials

Fully licensed	86.1%	31
Provisional credential	8.3%	3
Emergency credential	5.6%	2

Students per Teaching Staff [*]

Regular Instruction	18.3
Special Instruction	10.5

[*] Regular instruction includes both regular and supplemental teaching staff and does not include mainstreamed special education students. Therefore, these figures do not indicate class size.

Administrative and Student Services Staff

Administration, FTE [*]	2.0
Librarians, FTE	1.0
Counselors, FTE	1.0
Number of principals at this school in the last five years	2

[*] Administration includes Principals, Vice-Principals, Student Activity Coordinators, Student Services Coordinators, Registrars, and Athletic Directors

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Facilities   *School Year Ending 2006*

Classrooms available	42
Number of classrooms short (-) or over (+)	8

School facilities inspection results

	Score		
	1	2	3
Grounds			3
Building exterior			3
Building interior			3
Equipment/Furnishings			3
Health/Safety	1		
Sanitation			3
Total		16	

For each category:
  1 = Unacceptable; 2 = Satisfactory; 3 = Very Good

For Total:
  6-8 = Unacceptable; 9-15 = Satisfactory;
  16-18 = Very Good

Adequacy of School's Space

- Administration 94%
- Library 90%
- Cafeteria/Auditorium 106%
- Classrooms 145%

← State Standard

School facilities are considered inadequate if below 70%; marginal if between 70% and 99%; and in excess of state standard if above 100%. School population is placed into size categories and is used in formulas to determine State standards for space. Graph does not display capacity exceeding 200%.

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Vital Signs

School Quality Survey

The School Quality Survey (SQS) is conducted every two years. The first 6 dimensions correspond to those in the Standards Implementation Design. The last 3 dimensions fulfill reporting requirements of Chapter §302A-1004 Hawaii Revised Statutes.

Percent of Positive Responses

School Quality Survey * Dimensions		Teachers School	Teachers State	Parents School	Parents State	Students School	Students State
Standards-Based Learning	2003	94.4%	--	70.5%	--	77.7%	--
	2005	90.8%	87.4%	75.5%	77.1%	73.6%	76.5%
Quality Student Support	2003	96.1%	--	66.1%	--	65.2%	--
	2005	92.2%	79.7%	74.1%	72.9%	63.2%	66.4%
Professionalism & System Capacity	2003	75.8%	--	82.9%	--	89.4%	--
	2005	90.3%	77.6%	84.6%	83.7%	83.3%	84.4%
Coordinated Team Work	2003	91.4%	--	41.1%	--	65.4%	--
	2005	81.0%	77.2%	47.5%	58.4%	60.2%	64.0%
Responsiveness of the System	2003	94.3%	--	63.2%	--	There are no student items for this dimension	
	2005	92.6%	82.9%	72.1%	70.3%		
Focused & Sustained Action	2003	92.3%	--	41.1%	--	73.8%	--
	2005	86.8%	80.2%	63.1%	57.3%	68.1%	72.9%
Involvement	2003	91.4%	--	65.0%	--	58.8%	--
	2005	91.9%	85.6%	74.1%	68.5%	62.5%	59.8%
Satisfaction	2003	95.4%	--	56.4%	--	78.7%	--
	2005	77.5%	65.8%	73.8%	70.6%	70.9%	72.8%
Student Safety & Well Being	2003	98.6%	--	71.7%	--	64.4%	--
	2005	94.6%	86.0%	75.1%	75.1%	62.1%	65.0%
Survey Return Rate **	2003	55.8%	--	19.9%	--	95.8%	--
	2005	83.3%	78.6%	18.1%	23.8%	98.6%	91.1%

*
State Teacher and Parent positive response figures are one of 4 grade spans (Gr. K to 5/6, Gr. 6/7 to 8, Gr. 9 to 12, and Multi-level) that best correspond to this school's grade span. The Student positive response figures for the State and this school are those of the highest grade level surveyed at this school.

**
State Return Rate for Teachers, Parents, and Students are for one of 6 grade spans (i.e., Gr. K to 5/6, Gr. K to 7/8, Gr. K to 12, Gr. 6/7 to 8, Gr. 6 to 12, and Gr. 9 to 12) that correspond to this school's grade span.

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Vital Signs

Student Conduct

Attendance and Absences

School Year			State Standard
2003-04	2004-05	2005-06	

Average Daily Attendance: %
(higher is better)

94.3%	94.7%	93.8%	**95.0%**

Average Daily Absences: in days
(lower is better)

10.2	9.5	10.7	**9**

Suspensions, School Year 2005-2006

Non-suspended:	599	100%
Suspended:	0	0%
		No students were suspended at this school.
Class A:	0	0%
Class B:	0	0%
Class C:	0	0%
Class D:	0	0%

0.0% 20.0% 40.0% 60.0% 80.0% 100.0%

Examples of class of suspension:	Class A: Burglary, robbery, sale of dangerous drugs Class B: Disorderly conduct, trespassing Class C: Class cutting, insubordination, smoking Class D: Contraband (e.g. possession of tobacco)

School Retention

Retention for elementary schools include students in all grades except kindergarten who were retained (kept back a grade). Retention for middle/intermediate schools include only eighth graders who were not promoted to ninth grade. Starting in 2004, eighth grade retention calculations that conform to NCLB requirements are used.

Retention

	2004	2005	2006
Total number of students	504	523	509
Percent retained in grade	1%	0%	1%

Vital Signs

Statewide Testing

HCPS Reading

HCPS Mathematics

A bar may not be shown to maintain student confidentiality (see FERPA).

HCPS Writing Test

Grade	Meaning		Voice		Clarity		Design		Conventions		Overall	
	School	State	School	State	School	State	School	State	School	State	School	State

State writing test was not given in Spring 2006.

Stanford Achievement Test, 9th Edition

Percent Average and Above

| | Reading | | Mathematics | |
| | National Norm is 77% | | National Norm is 77% | |
Grade	This School	State	This School	State
6	85%	80%	92%	84%
5	80%	77%	86%	82%
4	80%	75%	86%	85%
3	83%	82%	95%	87%

The Stanford Achievement Test is a national norm-referenced test with a range of 9 stanine levels. Scores in stanines 1 to 3 represent the Below Average category, and scores in stanines 4 to 9 represent Average and Above Average categories.
-- means "missing data"
* means data not reported to maintain student confidentiality (see FERPA).

60

Benjamin Parker Elementary School

School Code: 323

Grades   K-6

Contents

School Address:

Benjamin Parker Elementary School
45-259 Waikalua Road
Kaneohe, Hawaii 96744

Focus On Standards

This School Status and Improvement Report has been prepared as part of the Department's education accountability system to provide regular, understandable accounts of our schools' performance and progress, as required by §302A-1004, Hawai'i Revised Statutes.

This report describes the school and its setting; provides information about the school's administrators, teachers, students and facilities; summarizes progress made based on the school's improvement plan, and reports student achievement results along with other vital signs.

School Description

Reverend Benjamin Parker School is located on a beautiful 10.81 acre site in Kaneohe, a suburban community eleven miles from Honolulu. Our school was originally called Kaneohe School and has been at its present location on land granted by the Benjamin Parker Estate, since 1927. The school was renamed in honor of its benefactor and is the oldest school in Kaneohe. In its early years Benjamin Parker educated students from K-12 and reverted to being an elementary school in 1951.

An outstanding feature of our school is a 56 foot long mural "Ka Haku Benamine". Created by Juliette May Fraser, this beautiful mural of ceramic tile depicts Reverend Benjamin Parker as he lived and played among the Hawaiian people in the early 1840's. The first mural section symbolizes Hawaiian games and recreation. The second section symbolizes the education of Hawaiians by the Parkers. The final section symbolizes both the music and Christianity introduced to Hawaiians.

The majority of our students are of Hawaiian and Part-Hawaiian ancestry. Multi-generations of families from our neighborhood attended Benjamin Parker School and there is tremendous pride in supporting the school.

Our school's annual May Day program attract our families, alumni, and dignitaries who come to see our spirited dances, royal court and May Pole festivities.

Our families enjoy our annual Breakfast with Santa, Tech Fun Run and Family Reading Festivals. We have received wide media coverage for our yearly Principal's Reading Challenge. This year students were challenged to read 10,000 books. Students in grades K-6 exceeded this goal, our principal shaved his head at a school assembly.
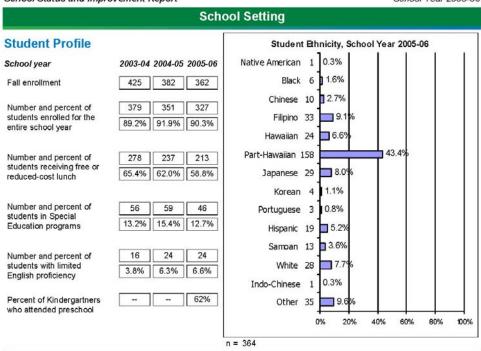
Benjamin Parker School's sixth grade boys and girls basketball and volleyball teams compete within the Castle Complex. Yearly faculty verses student competitions help to build morale and a feeling of togetherness at our school.
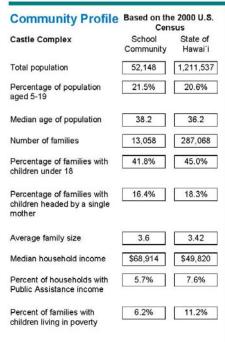
Our school receives support form Title I, Reading First and Pihana Na Mamo Federal Grants. Grant funds enable us to continue to provide our students with research-based reading and math programs. Operating under School Community Councils, in SY 2005-2006, parents, faculty and community representatives will have a new venue to participate in school activities.

Note. School description is from school year 2004-05; current description was not submitted.

School Setting

Student Profile

School year	2003-04	2004-05	2005-06
Fall enrollment	425	382	362
Number and percent of students enrolled for the entire school year	379	351	327
	89.2%	91.9%	90.3%
Number and percent of students receiving free or reduced-cost lunch	278	237	213
	65.4%	62.0%	58.8%
Number and percent of students in Special Education programs	56	59	46
	13.2%	15.4%	12.7%
Number and percent of students with limited English proficiency	16	24	24
	3.8%	6.3%	6.6%
Percent of Kindergartners who attended preschool	--	--	62%

Student Ethnicity, School Year 2005-06

Ethnicity	Number	Percent
Native American	1	0.3%
Black	6	1.6%
Chinese	10	2.7%
Filipino	33	9.1%
Hawaiian	24	6.6%
Part-Hawaiian	158	43.4%
Japanese	29	8.0%
Korean	4	1.1%
Portuguese	3	0.8%
Hispanic	19	5.2%
Samoan	13	3.6%
White	28	7.7%
Indo-Chinese	1	0.3%
Other	35	9.6%

n = 364

Community Profile

Based on the 2000 U.S. Census

Castle Complex	School Community	State of Hawai'i
Total population	52,148	1,211,537
Percentage of population aged 5-19	21.5%	20.6%
Median age of population	38.2	36.2
Number of families	13,058	287,068
Percentage of families with children under 18	41.8%	45.0%
Percentage of families with children headed by a single mother	16.4%	18.3%
Average family size	3.6	3.42
Median household income	$68,914	$49,820
Percent of households with Public Assistance income	5.7%	7.6%
Percent of families with children living in poverty	6.2%	11.2%

Community Educational Attainment Level

Attainment	School Community	State of Hawai'i
College Graduate	30.7%	26.2%
Some College	30.0%	29.9%
High School	29.3%	28.5%
Less than High School Graduate	9.9%	15.4%

■ State of Hawai'i □ School Community

School Resources

Certified Staff

Teaching Staff

Total Full-Time Equivalent (FTE)		28.0
Regular Instruction, FTE	39.3%	11.0
Special Instruction, FTE	25.0%	7.0
Supplemental Instruction, FTE	35.7%	10.0
Teacher headcount		28
Teachers with 5 or more years at this school		21
Teachers' average years of experience		12.4
Teachers with advanced degrees		14

Professional Teacher Credentials

Fully licensed	85.7%	24
Provisional credential	10.7%	3
Emergency credential	3.6%	1

Students per Teaching Staff [*]

Regular Instruction	15.0
Special Instruction	6.6

[*] Regular instruction includes both regular and supplemental teaching staff and does not include mainstreamed special education students. Therefore, these figures do not indicate class size.

Administrative and Student Services Staff

Administration, FTE [*]	3.0
Librarians, FTE	1.0
Counselors, FTE	2.0
Number of principals at this school in the last five years	2

[*] Administration includes Principals, Vice-Principals, Student Activity Coordinators, Student Services Coordinators, Registrars, and Athletic Directors

Facilities   *School Year Ending 2006*

Classrooms available	33
Number of classrooms short (-) or over (+)	7

School facilities inspection results

	Score 1	Score 2	Score 3
Grounds			3
Building exterior			3
Building interior			3
Equipment/Furnishings			3
Health/Safety			3
Sanitation			3
Total		18	

For each category:
 1 = Unacceptable; 2 = Satisfactory; 3 = Very Good

For Total:
 6-8 = Unacceptable; 9-15 = Satisfactory;
 16-18 = Very Good

Adequacy of School's Space

- Administration: 127%
- Library: 104%
- Cafeteria/Auditorium: 296%
- Classrooms: 179%

State Standard

School facilities are considered inadequate if below 70%; marginal if between 70% and 99%; and in excess of state standard if above 100%. School population is placed into size categories and is used in formulas to determine State standards for space. Graph does not display capacity exceeding 200%.

Vital Signs

School Quality Survey

The School Quality Survey (SQS) is conducted every two years. The first 6 dimensions correspond to those in the Standards Implementation Design. The last 3 dimensions fulfill reporting requirements of Chapter §302A-1004 Hawaii Revised Statutes.

Percent of Positive Responses

School Quality Survey * Dimensions		Teachers School	Teachers State	Parents School	Parents State	Students School	Students State
Standards-Based Learning	2003	86.8%	--	65.1%	--	68.7%	--
	2005	89.7%	87.4%	68.2%	77.1%	61.5%	76.5%
Quality Student Support	2003	71.6%	--	61.7%	--	56.5%	--
	2005	78.2%	79.7%	64.1%	72.9%	50.1%	66.4%
Professionalism & System Capacity	2003	71.7%	--	65.5%	--	85.5%	--
	2005	83.1%	77.6%	84.4%	83.7%	68.4%	84.4%
Coordinated Team Work	2003	81.5%	--	44.2%	--	50.6%	--
	2005	74.3%	77.2%	47.9%	58.4%	48.7%	64.0%
Responsiveness of the System	2003	87.0%	--	65.3%	--	There are no student items for this dimension	
	2005	84.0%	82.9%	58.8%	70.3%		
Focused & Sustained Action	2003	79.8%	--	40.1%	--	61.7%	--
	2005	78.5%	80.2%	41.9%	57.3%	54.3%	72.9%
Involvement	2003	87.0%	--	59.6%	--	59.7%	--
	2005	81.9%	85.6%	59.6%	68.5%	42.4%	59.8%
Satisfaction	2003	48.1%	--	61.4%	--	57.4%	--
	2005	62.5%	65.8%	59.4%	70.6%	56.7%	72.8%
Student Safety & Well Being	2003	68.9%	--	61.7%	--	54.3%	--
	2005	81.9%	86.0%	65.2%	75.1%	49.1%	65.0%
Survey Return Rate **	2003	56.3%	--	17.6%	--	95.8%	--
	2005	88.9%	78.6%	16.6%	23.8%	98.3%	91.1%

* State Teacher and Parent positive response figures are one of 4 grade spans (Gr. K to 5/6, Gr. 6/7 to 8, Gr. 9 to 12, and Multi-level) that best correspond to this school's grade span. The Student positive response figures for the State and this school are those of the highest grade level surveyed at this school.

** State Return Rate for Teachers, Parents, and Students are for one of 6 grade spans (i.e., Gr. K to 5/6, Gr. K to 7/8, Gr. K to 12, Gr. 6/7 to 8, Gr. 6 to 12, and Gr. 9 to 12) that correspond to this school's grade span.

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Vital Signs

Student Conduct

Attendance and Absences

School Year			State Standard
2003-04	2004-05	2005-06	

Average Daily Attendance: %
(higher is better)

93.3%	93.2%	93.9%	**95.0%**

Average Daily Absences: in days
(lower is better)

11.7	12.0	11.0	*9*

Suspensions, School Year 2005-2006

Non-suspended:	362	100%
Suspended:	0	0%
		No students were suspended at this school.
Class A:	0	0%
Class B:	0	0%
Class C:	0	0%
Class D:	0	0%

Examples of class of suspension:
Class A: Burglary, robbery, sale of dangerous drugs
Class B: Disorderly conduct, trespassing
Class C: Class cutting, insubordination, smoking
Class D: Contraband (e.g. possession of tobacco)

School Retention

Retention for elementary schools include students in all grades except kindergarten who were retained (kept back a grade). Retention for middle/intermediate schools include only eighth graders who were not promoted to ninth grade. Starting in 2004, eighth grade retention calculations that conform to NCLB requirements are used.

Retention

	2004	2005	2006
Total number of students	376	325	316
Percent retained in grade	0%	1%	1%

65

Vital Signs

Statewide Testing

HCPS Reading

HCPS Mathematics

A bar may not be shown to maintain student confidentiality (see FERPA).

HCPS Writing Test

Grade	Meaning		Voice		Clarity		Design		Conventions		Overall	
	School	State	School	State	School	State	School	State	School	State	School	State

State writing test was not given in Spring 2006.

Stanford Achievement Test, 9th Edition

Percent Average and Above

	Reading National Norm is 77%		Mathematics National Norm is 77%	
Grade	This School	State	This School	State
6	84%	80%	87%	84%
5	79%	77%	79%	82%
4	72%	75%	85%	85%
3	80%	82%	84%	87%

The Stanford Achievement Test is a national norm-referenced test with a range of 9 stanine levels. Scores in stanines 1 to 3 represent the Below Average category, and scores in stanines 4 to 9 represent Average and Above Average categories.
-- means "missing data"
* means data not reported to maintain student confidentiality (see FERPA).

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Keolu Elementary School

School Code: 317

Grades   K-6

School Status and Improvement Report   School Year 2005-06

Focus On Standards

This School Status and Improvement Report has been prepared as part of the Department's education accountability system to provide regular, understandable accounts of our schools' performance and progress, as required by §302A-1004, Hawai'i Revised Statutes.

This report describes the school and its setting; provides information about the school's administrators, teachers, students and facilities; summarizes progress made based on the school's improvement plan, and reports student achievement results along with other vital signs.

School Description

Keolu Elementary School sits at the foothills of the Ko'olau mountains, in the Windward district of O'ahu. The school is situated in the Keolu Hills, Enchanted Lake area, adjacent to the Keolu Baseball Field and Park. Keolu Elementary, located on Keolu Drive, is a part of the Kailua Complex, which includes six elementary, two intermediate, and one high school. We proudly provide a positive school climate to a multi-ethnic population where the Keolu, Kailua and Waimanalo communities come together in the interest of student achievement and well-being. Our campus is clean, safe, quiet, family-oriented, and our staff and students endeavor to embrace the ideal of "kina'ole" that is doing the right thing, in the right way, at the right time, in the right place, to the right person, for the right reason, with the right feeling... the first time. Our community partnerships include healthy relationships with the US Navy's VPU-2 Wizards, Papa John's Pizza, the Pali Lions, the Hawaii Ballroom Dancing Association, the Enchanted Lakes Baptist Church, the Enchanted Lakes Safeway, and the Enchanted Lakes McDonalds, just to name a few.

Contents

School Address:

Keolu Elementary School
1416 Keolu Drive
Kailua, Hawaii 96734

School Setting

Student Profile

School year	2003-04	2004-05	2005-06
Fall enrollment	201	186	181
Number and percent of students enrolled for the entire school year	175	178	165
	87.1%	95.7%	91.2%
Number and percent of students receiving free or reduced-cost lunch	78	82	79
	38.8%	44.1%	43.6%
Number and percent of students in Special Education programs	20	16	24
	10.0%	8.6%	13.3%
Number and percent of students with limited English proficiency	6	6	3
	3.0%	3.2%	1.7%
Percent of Kindergartners who attended preschool	--	--	67%

Student Ethnicity, School Year 2005-06

Ethnicity	Number	Percent
Native American	1	0.5%
Black	3	1.5%
Chinese	0	0.0%
Filipino	12	6.1%
Hawaiian	7	3.6%
Part-Hawaiian	73	37.1%
Japanese	19	9.6%
Korean	1	0.5%
Portuguese	8	4.1%
Hispanic	7	3.6%
Samoan	8	4.1%
White	42	21.3%
Indo-Chinese	0	0.0%
Other	16	8.1%

n = 197

Community Profile

Based on the 2000 U.S. Census

Kailua Complex	School Community	State of Hawai'i
Total population	28,396	1,211,537
Percentage of population aged 5-19	22.2%	20.6%
Median age of population	37.8	36.2
Number of families	6,777	287,068
Percentage of families with children under 18	38.8%	45.0%
Percentage of families with children headed by a single mother	14.2%	18.3%
Average family size	3.6	3.42
Median household income	$75,211	$49,820
Percent of households with Public Assistance income	5.4%	7.6%
Percent of families with children living in poverty	5.5%	11.2%

Community Educational Attainment Level

	School Community	State of Hawai'i
College Graduate	32.5%	26.2%
Some College	25.8%	29.9%
High School	30.6%	28.5%
Less than High School Graduate	11.1%	15.4%

State of Hawai`i □ School Community

School Improvement

Summary of Progress

Extent to which the SID Parameters were achieved.

- 100% participation in the HSA and NAEP testing
- Results for AYP goals will not be available until July
- Improved oral fluency in reading per the DIBBELS data
- Improved reading in SPED. Scores show at least one grade level jump.
- Classroom assessments include 100% of students reading in kindergarten.

Extent to which student achievement targets were met.

- Benchmark goals for reading in grades K and 1 by 90%
- Based on STAR Math assessments a 3.15 average NCE improvement reported in math for grades 3-6.
- Keolu Kids an informative news cast done by Keolu students continues to show students demonstrating GLO 5 and 6 for being an Effective Communicator and Ethical Use of Technology.
- New bell schedule better coordinates more focused planning and collaboration time for teachers and increases instruction time
- eSIS training completed for teachers' input and operation for school year to include the standards based report card. Transition to standards based grading was very successful for inputting of grades.

Extent to which other targets (cross-cutting issues) were met, if applicable.

- Participation in web project by specific grade levels resulted in students work highlighted in the project's culmination flyer.
- Continued community partnership with Navy to include tutoring in classrooms.
- Began to develop new community partnerships to explore broader ways to highlight student successes and achievement through strong leadership with School Community Council
- School's May Day performance brought the theme of working together, "laulima" into the classroom and brought parent participation and enthusiasm for school to a higher level.
- Open House, Student Council Talent Show, May Day and school's Math Night showed at 37% increase in parent participation.

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School Resources

Certified Staff

Teaching Staff

Total Full-Time Equivalent (FTE)		15.0
Regular Instruction, FTE	33.3%	5.0
Special Instruction, FTE	26.7%	4.0
Supplemental Instruction, FTE	40.0%	6.0
Teacher headcount		15
Teachers with 5 or more years at this school		12
Teachers' average years of experience		16.5
Teachers with advanced degrees		3

Professional Teacher Credentials

Fully licensed	93.3%	14
Provisional credential	0.0%	0
Emergency credential	6.7%	1

Students per Teaching Staff [*]

Regular Instruction	14.3
Special Instruction	6.0

[*] Regular instruction includes both regular and supplemental teaching staff and does not include mainstreamed special education students. Therefore, these figures do not indicate class size.

Administrative and Student Services Staff

Administration, FTE [*]	2.0
Librarians, FTE	1.0
Counselors, FTE	1.0
Number of principals at this school in the last five years	2

[*] Administration includes Principals, Vice-Principals, Student Activity Coordinators, Student Services Coordinators, Registrars, and Athletic Directors

Facilities   *School Year Ending 2006*

Classrooms available	14
Number of classrooms short (-) or over (+)	3

School facilities inspection results

	Score 1	Score 2	Score 3
Grounds		2	
Building exterior		2	
Building interior		2	
Equipment/Furnishings		2	
Health/Safety		2	
Sanitation		2	
Total		12	

For each category:
1 = Unacceptable; 2 = Satisfactory; 3 = Very Good

For Total:
6-8 = Unacceptable; 9-15 = Satisfactory;
16-18 = Very Good

Adequacy of School's Space

← State Standard

Administration	82%
Library	101%
Cafeteria/ Auditorium	444%
Classrooms	154%

School facilities are considered inadequate if below 70%; marginal if between 70% and 99%; and in excess of state standard if above 100%. School population is placed into size categories and is used in formulas to determine State standards for space. Graph does not display capacity exceeding 200%.

Vital Signs

School Quality Survey

The School Quality Survey (SQS) is conducted every two years. The first 6 dimensions correspond to those in the Standards Implementation Design. The last 3 dimensions fulfill reporting requirements of Chapter §302A-1004 Hawaii Revised Statutes.

Percent of Positive Responses

School Quality Survey * Dimensions		Teachers School	Teachers State	Parents School	Parents State	Students School	Students State
Standards-Based Learning	2003	72.0%	--	68.6%	--	71.9%	--
	2005	71.3%	87.4%	68.2%	77.1%	76.1%	76.5%
Quality Student Support	2003	72.3%	--	72.7%	--	67.9%	--
	2005	72.7%	79.7%	73.3%	72.9%	68.0%	66.4%
Professionalism & System Capacity	2003	69.0%	--	79.4%	--	77.4%	--
	2005	59.1%	77.6%	78.8%	83.7%	82.6%	84.4%
Coordinated Team Work	2003	65.0%	--	43.8%	--	55.1%	--
	2005	60.0%	77.2%	49.3%	58.4%	62.3%	64.0%
Responsiveness of the System	2003	71.7%	--	64.6%	--	There are no student items for this dimension	
	2005	73.3%	82.9%	64.5%	70.3%		
Focused & Sustained Action	2003	60.0%	--	45.0%	--	61.5%	--
	2005	59.6%	80.2%	48.5%	57.3%	79.4%	72.9%
Involvement	2003	70.0%	--	59.8%	--	56.7%	--
	2005	68.9%	85.6%	63.1%	68.5%	43.5%	59.8%
Satisfaction	2003	51.7%	--	58.8%	--	75.5%	--
	2005	44.4%	65.8%	53.9%	70.6%	80.9%	72.8%
Student Safety & Well Being	2003	80.0%	--	78.1%	--	68.1%	--
	2005	80.0%	86.0%	78.1%	75.1%	67.8%	65.0%
Survey Return Rate **	2003	71.4%	--	27.2%	--	86.1%	--
	2005	88.2%	78.6%	30.6%	23.8%	92.0%	91.1%

* State Teacher and Parent positive response figures are one of 4 grade spans (Gr. K to 5/6, Gr. 6/7 to 8, Gr. 9 to 12, and Multi-level) that best correspond to this school's grade span. The Student positive response figures for the State and this school are those of the highest grade level surveyed at this school.

** State Return Rate for Teachers, Parents, and Students are for one of 6 grade spans (i.e., Gr. K to 5/6, Gr. K to 7/8, Gr. K to 12, Gr. 6/7 to 8, Gr. 6 to 12, and Gr. 9 to 12) that correspond to this school's grade span.

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Vital Signs

Student Conduct

Attendance and Absences

School Year			State Standard
2003-04	2004-05	2005-06	

Average Daily Attendance: %
(higher is better)

94.3%	95.0%	93.8%	**95.0%**

Average Daily Absences: in days
(lower is better)

10.2	8.9	11.0	**9**

Suspensions, School Year 2005-2006

Non-suspended:	171	94%
Suspended:	10	6%
Class A:	0	0%
Class B:	1	8%
Class C:	1	8%
Class D:	10	83%

These 10 students were responsible for these 12 suspensions.

Examples of class of suspension:
Class A: Burglary, robbery, sale of dangerous drugs
Class B: Disorderly conduct, trespassing
Class C: Class cutting, insubordination, smoking
Class D: Contraband (e.g. possession of tobacco)

School Retention

Retention for elementary schools include students in all grades except kindergarten who were retained (kept back a grade). Retention for middle/intermediate schools include only eighth graders who were not promoted to ninth grade. Starting in 2004, eighth grade retention calculations that conform to NCLB requirements are used.

Retention

	2004	2005	2006
Total number of students	181	165	157
Percent retained in grade	1%	0%	1%

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Vital Signs

Statewide Testing

HCPS Reading

HCPS Mathematics

A bar may not be shown to maintain student confidentiality (see FERPA).

HCPS Writing Test

Grade	Meaning		Voice		Clarity		Design		Conventions		Overall	
	School	State	School	State	School	State	School	State	School	State	School	State

State writing test was not given in Spring 2006.

Stanford Achievement Test, 9th Edition

Percent Average and Above

Grade	Reading National Norm is 77%		Mathematics National Norm is 77%	
	This School	State	This School	State
6	70%	80%	90%	84%
5	75%	77%	75%	82%
4	56%	75%	74%	85%
3	75%	82%	90%	87%

The Stanford Achievement Test is a national norm-referenced test with a range of 9 stanine levels. Scores in stanines 1 to 3 represent the Below Average category, and scores in stanines 4 to 9 represent Average and Above Average categories.
-- means "missing data"
* means data not reported to maintain student confidentiality (see FERPA).

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Control Schools:
Kahuku Elementary, Heʻeia Elementary, Kaʻaʻawa Elementary

Kahuku Elementary School

School Code: 331

Grades K-6

School Status and Improvement Report   School Year 2005-06

School Address:

Kahuku Elementary School
56-170 Pualalea Street
Kahuku, Hawaii 96731

Focus On Standards

This School Status and Improvement Report has been prepared as part of the Department's education accountability system to provide regular, understandable accounts of our schools' performance and progress, as required by §302A-1004, Hawai'i Revised Statutes.

This report describes the school and its setting; provides information about the school's administrators, teachers, students and facilities; summarizes progress made based on the school's improvement plan, and reports student achievement results along with other vital signs.
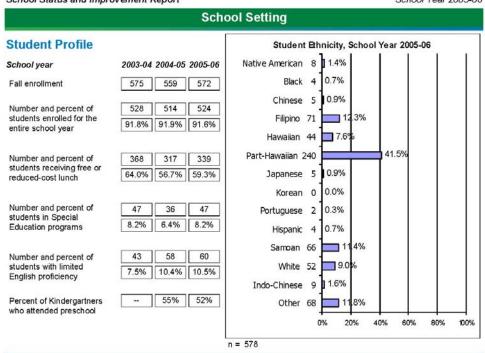
School Description

Kahuku is a multi-ethnic, rural school located at the foot of the Koolau mountain range and the southern tip of the North Shore. Although the Kahuku Sugar Mill is no longer standing, the structure of our buildings reflects the plantation life style that was the foundation of the Kahuku Community.
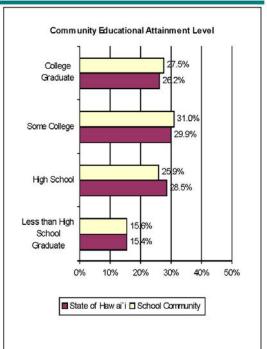
Our students have made great gains in the areas of Reading and Mathematics, our most recent AYP rating is "Good Standing-Conditional".

We have transitioned from a "School-Community Based, Management" system to a "School Community Council" as outlined in Act 51. We have a dedicated staff. Our parents attend most activities and are very supportive of their children and our school.

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School Setting

Student Profile

School year	2003-04	2004-05	2005-06
Fall enrollment	575	559	572
Number and percent of students enrolled for the entire school year	528	514	524
	91.8%	91.9%	91.6%
Number and percent of students receiving free or reduced-cost lunch	368	317	339
	64.0%	56.7%	59.3%
Number and percent of students in Special Education programs	47	36	47
	8.2%	6.4%	8.2%
Number and percent of students with limited English proficiency	43	58	60
	7.5%	10.4%	10.5%
Percent of Kindergartners who attended preschool	--	55%	52%

Student Ethnicity, School Year 2005-06

Ethnicity	Count	Percent
Native American	8	1.4%
Black	4	0.7%
Chinese	5	0.9%
Filipino	71	12.3%
Hawaiian	44	7.6%
Part-Hawaiian	240	41.5%
Japanese	5	0.9%
Korean	0	0.0%
Portuguese	2	0.3%
Hispanic	4	0.7%
Samoan	66	11.4%
White	52	9.0%
Indo-Chinese	9	1.6%
Other	68	11.8%

n = 578

Community Profile

Based on the 2000 U.S. Census

Kahuku Complex	School Community	State of Hawai'i
Total population	17,877	1,211,537
Percentage of population aged 5-19	26.6%	20.6%
Median age of population	29.7	36.2
Number of families	3,556	287,068
Percentage of families with children under 18	53.3%	45.0%
Percentage of families with children headed by a single mother	15.2%	18.3%
Average family size	3.9	3.42
Median household income	$46,167	$49,820
Percent of households with Public Assistance income	10.2%	7.6%
Percent of families with children living in poverty	15.9%	11.2%

Community Educational Attainment Level

	State of Hawai'i	School Community
College Graduate	26.2%	27.5%
Some College	29.9%	31.0%
High School	28.5%	25.9%
Less than High School Graduate	15.4%	15.6%

■ State of Hawai'i □ School Community

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School Improvement

Summary of Progress

With our new language arts program, we have experienced a tremendous increase in student achievement in reading. We have also increased our scores on the Hawaii State Assessment for math, and hope that our new math program will help to continue this rising score.

We have also been able to reduce the amount of disciplinary actions by adopting the 5Rs character ed. program, continuing with intramurals during recess time, providing rewards for appropriate behavior in the cafeteria and by establishing new transition procedures from the playground. We have also increased the number of students wearing the approved uniform to school by allowing students to borrow school shirts on a day to day basis.

We have improved our monitoring system of students who have been referred to the Core Committee and we continue to use part time teachers as a way of decreasing the student to teacher ratio for language arts.

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School Resources

Certified Staff

Teaching Staff

Total Full-Time Equivalent (FTE) | 34.5

Regular Instruction, FTE	63.8%	22.0
Special Instruction, FTE	14.5%	5.0
Supplemental Instruction, FTE	21.7%	7.5

Teacher headcount	36
Teachers with 5 or more years at this school	21
Teachers' average years of experience	12.3
Teachers with advanced degrees	5

Professional Teacher Credentials

Fully licensed	94.4%	34
Provisional credential	5.6%	2
Emergency credential	0.0%	0

Students per Teaching Staff [*]

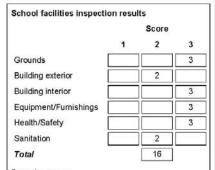|	
Regular Instruction	17.8
Special Instruction	9.4

[*] Regular instruction includes both regular and supplemental teaching staff and does not include mainstreamed special education students. Therefore, these figures do not indicate class size.

Administrative and Student Services Staff

Administration, FTE [*]	4.0
Librarians, FTE	1.0
Counselors, FTE	2.0
Number of principals at this school in the last five years	2

[*] Administration includes Principals, Vice-Principals, Student Activity Coordinators, Student Services Coordinators, Registrars, and Athletic Directors.

Facilities   *School Year Ending 2006*

Classrooms available	25
Number of classrooms short (-) or over (+)	-5

School facilities inspection results

	Score 1	2	3
Grounds			3
Building exterior		2	
Building interior			3
Equipment/Furnishings			3
Health/Safety			3
Sanitation		2	
Total			16

For each category:
1 = Unacceptable; 2 = Satisfactory; 3 = Very Good

For Total:
6-8 = Unacceptable; 9-15 = Satisfactory;
16-18 = Very Good

Adequacy of School's Space

School facilities are considered inadequate if below 70%; marginal if between 70% and 99%; and in excess of state standard if above 100%. School population is placed into size categories and is used in formulas to determine State standards for space. Graph does not display capacity exceeding 200%.

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Vital Signs

School Quality Survey

The School Quality Survey (SQS) is conducted every two years. The first 6 dimensions correspond to those in the Standards Implementation Design. The last 3 dimensions fulfill reporting requirements of Chapter §302A-1004 Hawaii Revised Statutes.

Percent of Positive Responses

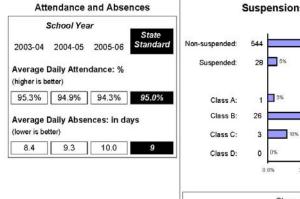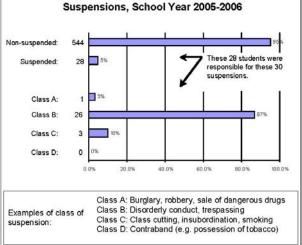| School Quality Survey * Dimensions		Teachers School	Teachers State	Parents School	Parents State	Students School	Students State
Standards-Based Learning	2003	88.3%	--	76.0%	--	75.0%	--
	2005	84.6%	87.4%	79.6%	77.1%	85.1%	76.5%
Quality Student Support	2003	67.9%	--	73.3%	--	68.7%	--
	2005	88.3%	79.7%	77.7%	72.9%	77.1%	66.4%
Professionalism & System Capacity	2003	76.9%	--	81.8%	--	86.2%	--
	2005	83.9%	77.6%	88.6%	83.7%	92.3%	84.4%
Coordinated Team Work	2003	63.2%	--	56.3%	--	60.5%	--
	2005	86.4%	77.2%	63.2%	58.4%	62.9%	64.0%
Responsiveness of the System	2003	73.5%	--	74.1%	--	There are no student items for this dimension	
	2005	89.9%	82.9%	70.6%	70.3%		
Focused & Sustained Action	2003	74.2%	--	59.6%	--	58.5%	--
	2005	81.6%	80.2%	58.6%	57.3%	84.1%	72.9%
Involvement	2003	79.5%	--	67.0%	--	63.2%	--
	2005	89.9%	85.6%	68.5%	68.5%	76.9%	59.8%
Satisfaction	2003	62.3%	--	73.3%	--	80.2%	--
	2005	82.8%	65.8%	82.9%	70.6%	85.8%	72.8%
Student Safety & Well Being	2003	74.8%	--	72.3%	--	68.8%	--
	2005	90.3%	86.0%	80.2%	75.1%	75.0%	65.0%
Survey Return Rate **	2003	100.0%	--	18.4%	--	93.7%	--
	2005	81.1%	78.6%	20.5%	23.8%	102.6%	91.1%

* State Teacher and Parent positive response figures are one of 4 grade spans (Gr. K to 5/6, Gr. 6/7 to 8, Gr. 9 to 12, and Multi-level) that best correspond to this school's grade span. The Student positive response figures for the State and this school are those of the highest grade level surveyed at this school.

** State Return Rate for Teachers, Parents, and Students are for one of 6 grade spans (i.e., Gr. K to 5/6, Gr. K to 7/8, Gr. K to 12, Gr. 6/7 to 8, Gr. 6 to 12, and Gr. 9 to 12) that correspond to this school's grade span.

Vital Signs

Student Conduct

Attendance and Absences

	School Year			**State Standard**
	2003-04	2004-05	2005-06	

Average Daily Attendance: %
(higher is better)

95.3%	94.9%	94.3%	**95.0%**

Average Daily Absences: in days
(lower is better)

8.4	9.3	10.0	**9**

Suspensions, School Year 2005-2006

Non-suspended:	544
Suspended:	28
Class A:	1
Class B:	26
Class C:	3
Class D:	0

Non-suspended: 95%
Suspended: 5%
Class A: 3%
Class B: 87%
Class C: 10%
Class D: 0%

These 28 students were responsible for these 30 suspensions.

Examples of class of suspension:
Class A: Burglary, robbery, sale of dangerous drugs
Class B: Disorderly conduct, trespassing
Class C: Class cutting, insubordination, smoking
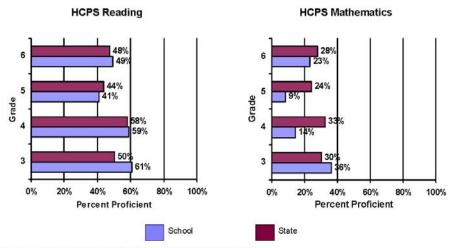Class D: Contraband (e.g. possession of tobacco)

School Retention

Retention for elementary schools include students in all grades except kindergarten who were retained (kept back a grade). Retention for middle/intermediate schools include only eighth graders who were not promoted to ninth grade. Starting in 2004, eighth grade retention calculations that conform to NCLB requirements are used.

Retention

	2004	2005	2006
Total number of students	503	491	483
Percent retained in grade	1%	1%	0%

Vital Signs

Statewide Testing

HCPS Reading　　　　　　　　　　　　**HCPS Mathematics**

A bar may not be shown to maintain student confidentiality (see FERPA).

HCPS Writing Test

Grade	Meaning		Voice		Clarity		Design		Conventions		Overall	
	School	State	School	State	School	State	School	State	School	State	School	State

State writing test was not given in Spring 2006.

Stanford Achievement Test, 9th Edition

Percent Average and Above

	Reading National Norm is 77%		Mathematics National Norm is 77%	
Grade	This School	State	This School	State
6	87%	80%	90%	84%
5	74%	77%	78%	82%
4	72%	75%	80%	85%
3	91%	82%	91%	87%

The Stanford Achievement Test is a national norm-referenced test with a range of 9 stanine levels. Scores in stanines 1 to 3 represent the Below Average category, and scores in stanines 4 to 9 represent Average and Above Average categories.
-- means "missing data"
* means data not reported to maintain student confidentiality (see FERPA).

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Heeia Elementary School

School Code: 304

Grades K-6

Focus On Standards

This School Status and Improvement Report has been prepared as part of the Department's education accountability system to provide regular, understandable accounts of our schools' performance and progress, as required by §302A-1004, Hawai'i Revised Statutes.

This report describes the school and its setting; provides information about the school's administrators, teachers, students and facilities; summarizes progress made based on the school's improvement plan, and reports student achievement results along with other vital signs.
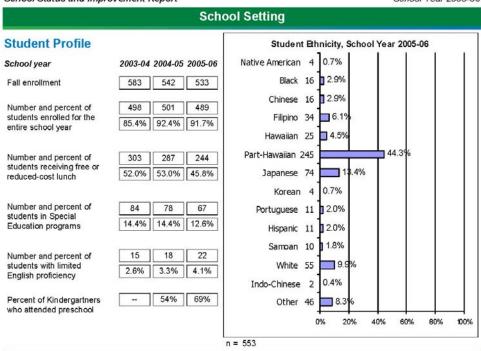
School Description

First opened in 1959, Heeia Elementary School is located on the fringes of Kaneohe's growing business community and is set against the magnificent Koolau Mountains. Our student population is predominantly Part Hawaiian, Caucasian, and Japanese. Our students come from low to upper-middle income homes. Families live in single family homes, townhouses, low rise apartment complexes, and a high rise apartment complex.
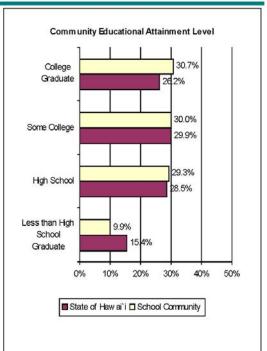
We draw from an area where the sense of family and community is strong. Grandchildren and children of former Heeia students attend the school. Alumnae have returned to work at the school. Almost all staff lived in Kaneohe. Our facilities are heavily used by youth sports organizations.

Our school receives strong support from an active Parent Teacher Association and School Community Council. Our parent leaders are involved in Castle Complex parent leadership groups. We are proud of 3 parent-child-teacher overnight activities that are planned, organized and implemented by parents. They are: 4th Grade Snooze in the Zoo, 5th Grade Camp Timberline, and 6th Grade Aloha Banquet & Snooze in the School.

Contents

School Address:

Heeia Elementary School
46-202 Haiku Road
Kaneohe, Hawaii 96744

School Setting

Student Profile

School year	2003-04	2004-05	2005-06
Fall enrollment	583	542	533
Number and percent of students enrolled for the entire school year	498 / 85.4%	501 / 92.4%	489 / 91.7%
Number and percent of students receiving free or reduced-cost lunch	303 / 52.0%	287 / 53.0%	244 / 45.8%
Number and percent of students in Special Education programs	84 / 14.4%	78 / 14.4%	67 / 12.6%
Number and percent of students with limited English proficiency	15 / 2.6%	18 / 3.3%	22 / 4.1%
Percent of Kindergartners who attended preschool	--	54%	69%

Student Ethnicity, School Year 2005-06

Ethnicity	Number	Percent
Native American	4	0.7%
Black	16	2.9%
Chinese	16	2.9%
Filipino	34	6.1%
Hawaiian	25	4.5%
Part-Hawaiian	245	44.3%
Japanese	74	13.4%
Korean	4	0.7%
Portuguese	11	2.0%
Hispanic	11	2.0%
Samoan	10	1.8%
White	55	9.9%
Indo-Chinese	2	0.4%
Other	46	8.3%

n = 553

Community Profile

Based on the 2000 U.S. Census

Castle Complex	School Community	State of Hawai'i
Total population	52,148	1,211,537
Percentage of population aged 5-19	21.5%	20.6%
Median age of population	38.2	36.2
Number of families	13,058	287,068
Percentage of families with children under 18	41.8%	45.0%
Percentage of families with children headed by a single mother	16.4%	18.3%
Average family size	3.6	3.42
Median household income	$68,914	$49,820
Percent of households with Public Assistance income	5.7%	7.6%
Percent of families with children living in poverty	6.2%	11.2%

Community Educational Attainment Level

Level	School Community	State of Hawai'i
College Graduate	30.7%	26.2%
Some College	30.0%	29.9%
High School	29.3%	28.5%
Less than High School Graduate	9.9%	15.4%

Legend: State of Hawai'i / School Community

School Improvement

Summary of Progress

The Standards Implementation Design (SID) process at He'eia Elementary School is a collaborative process that involves students, parents, community, faculty, classified staff and administrators. Parents and community are involved through the PTA Board and School Community Council (SCC) Open Forum meetings. Students are involved through the SCC Open Forum meetings and the He'eia School Student Government. Faculty and staff are involved through various faculty and staff teams. As the leadership team implements the steps of the SID process there is ongoing sharing of data and drafts of plans and requests for input and feedback from the SCC, PTA Board, faculty teams and staff teams.

Using the SID process between October to December 2005 we developed our Strategic Plan for SYs 2005-2007 and the AFP for SY 2006-2007. We built upon the current Focused Standard Implementation Action Plan (FSIAP). The AFP focuses on improving student achievement through standards based education, providing comprehensive support for all students, and continuously improving performance and quality. In December 2005 the SCC recommended to the Complex Area Superintendent that the AFP be approved. It was.

Instructional and behavioral aspects of our school program are supportive of the Department of Education's Six General Learner Outcomes and the Hawaii Content and Performance Standards III (HCPSIII). With regards to instruction and behavior the school acts as one system. In place are school-wide expectations, procedures, rules, incentive programs, and interventions for student learning and behavior. Faculty has aligned our grade level math and language arts programs to HCPSIII and is making good progress with alignment of our Science and Social Studies programs. We also have completely integrated the Castle Complex 5 Rs (Respect, Resourcefulness, Responsibility, Resiliency, and Relationships) with our Super Hawks awards program, school-wide behavior expectations matrix, and the DOE's Six General Learner Outcomes. The 5 Rs is the bases for our character education program.

To identify school improvement activities we gather and analyze data from the following sources: School Quality Survey; school developed surveys; administrator walk-throughs; monthly math and reading prompts; DIBELS assessment and progress monitoring in grades K-3; Harcourt Trophies Holistic assessment in grades 1-6; Hawaii State Assessment Program for grades 3-6; SAT9 for grade 2; Houghton-Mifflin Math pre & post testing; attendance data; behavior incident referrals; average daily attendance; and the GLO report card.

To ensure the implementation of school improvement activities the principal informs the leadership team, faculty and staff teams of their responsibilities for implementing activities and monitoring the implementation of activities. This information is provided at the beginning of the year. The various school teams meet monthly to accomplish their responsibilities. A member of each of the faculty team is also a member of the Leadership Team. This facilitates 2-way communication, monitoring, and accountability. We have found this system effective in ensuring that we accomplish the tasks identified in our FSIAP.

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School Resources

Certified Staff

Teaching Staff

Total Full-Time Equivalent (FTE)   35.0

Regular Instruction, FTE	57.1%	20.0
Special Instruction, FTE	22.9%	8.0
Supplemental Instruction, FTE	20.0%	7.0

Teacher headcount	35
Teachers with 5 or more years at this school	25
Teachers' average years of experience	14.2
Teachers with advanced degrees	11

Professional Teacher Credentials

Fully licensed	100.0%	35
Provisional credential	0.0%	0
Emergency credential	0.0%	0

Students per Teaching Staff [*]

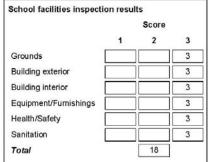|	
Regular Instruction	17.3
Special Instruction	8.4

[*] Regular instruction includes both regular and supplemental teaching staff and does not include mainstreamed special education students. Therefore, these figures do not indicate class size.

Administrative and Student Services Staff

Administration, FTE [*]	3.0
Librarians, FTE	1.0
Counselors, FTE	2.0
Number of principals at this school in the last five years	1

[*] Administration includes Principals, Vice-Principals, Student Activity Coordinators, Student Services Coordinators, Registrars, and Athletic Directors.
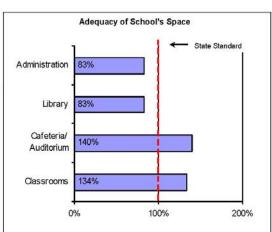
Facilities   *School Year Ending 2006*

Classrooms available	37
Number of classrooms short (-) or over (+)	3

School facilities inspection results

	Score 1	Score 2	Score 3
Grounds			3
Building exterior			3
Building interior			3
Equipment/Furnishings			3
Health/Safety			3
Sanitation			3
Total			18

For each category:
1 = Unacceptable; 2 = Satisfactory; 3 = Very Good

For Total:
6-8 = Unacceptable; 9-15 = Satisfactory;
16-18 = Very Good

Adequacy of School's Space

Category	Percent
Administration	83%
Library	83%
Cafeteria/Auditorium	140%
Classrooms	134%

School facilities are considered inadequate if below 70%; marginal if between 70% and 99%; and in excess of state standard if above 100%. School population is placed into size categories and is used in formulas to determine State standards for space. Graph does not display capacity exceeding 200%.

Vital Signs

School Quality Survey

The School Quality Survey (SQS) is conducted every two years. The first 6 dimensions correspond to those in the Standards Implementation Design. The last 3 dimensions fulfill reporting requirements of Chapter §302A-1004 Hawaii Revised Statutes.
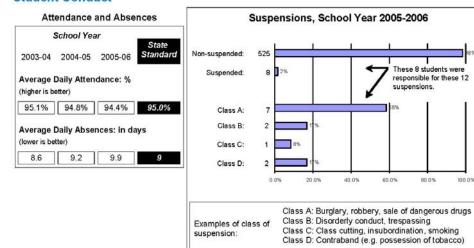
Percent of Positive Responses

School Quality Survey* Dimensions		Teachers		Parents		Students	
		School	State	School	State	School	State
Standards-Based Learning	2003	84.6%	--	80.0%	--	80.7%	--
	2005	86.2%	87.4%	83.2%	77.1%	74.3%	76.5%
Quality Student Support	2003	88.6%	--	74.2%	--	68.2%	--
	2005	89.7%	79.7%	75.8%	72.9%	65.2%	66.4%
Professionalism & System Capacity	2003	73.9%	--	84.4%	--	89.7%	--
	2005	86.7%	77.6%	88.0%	83.7%	88.6%	84.4%
Coordinated Team Work	2003	94.2%	--	62.6%	--	70.5%	--
	2005	90.4%	77.2%	59.8%	58.4%	63.9%	64.0%
Responsiveness of the System	2003	92.7%	--	76.1%	--	There are no student items for this dimension	
	2005	89.9%	82.9%	73.9%	70.3%		
Focused & Sustained Action	2003	93.5%	--	67.0%	--	81.4%	--
	2005	89.4%	80.2%	69.7%	57.3%	69.7%	72.9%
Involvement	2003	88.2%	--	70.0%	--	73.3%	--
	2005	87.9%	85.6%	69.9%	68.5%	62.9%	59.8%
Satisfaction	2003	81.2%	--	82.4%	--	76.5%	--
	2005	79.6%	65.8%	79.0%	70.6%	74.1%	72.8%
Student Safety & Well Being	2003	88.4%	--	74.4%	--	67.6%	--
	2005	94.9%	86.0%	76.4%	75.1%	63.2%	65.0%
Survey Return Rate**	2003	56.1%	--	17.3%	--	92.9%	--
	2005	84.6%	78.6%	22.7%	23.8%	92.3%	91.1%

* State Teacher and Parent positive response figures are one of 4 grade spans (Gr. K to 5/6, Gr. 6/7 to 8, Gr. 9 to 12, and Multi-level) that best correspond to this school's grade span. The Student positive response figures for the State and this school are those of the highest grade level surveyed at this school.

** State Return Rate for Teachers, Parents, and Students are for one of 6 grade spans (i.e., Gr. K to 5/6, Gr. K to 7/8, Gr. K to 12, Gr. 6/7 to 8, Gr. 6 to 12, and Gr. 9 to 12) that correspond to this school's grade span.
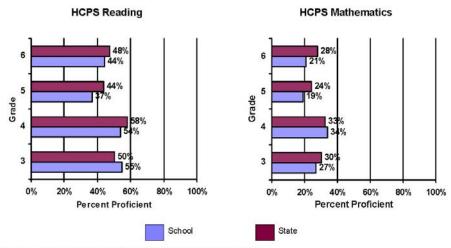
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Vital Signs

Student Conduct

Attendance and Absences

School Year			
2003-04	2004-05	2005-06	**State Standard**

Average Daily Attendance: %
(higher is better)

95.1%	94.8%	94.4%	**95.0%**

Average Daily Absences: in days
(lower is better)

8.6	9.2	9.9	**9**

Suspensions, School Year 2005-2006

Non-suspended:	525
Suspended:	8
Class A:	7
Class B:	2
Class C:	1
Class D:	2

These 8 students were responsible for these 12 suspensions.

Examples of class of suspension:	Class A: Burglary, robbery, sale of dangerous drugs Class B: Disorderly conduct, trespassing Class C: Class cutting, insubordination, smoking Class D: Contraband (e.g. possession of tobacco)

School Retention

Retention for elementary schools include students in all grades except kindergarten who were retained (kept back a grade). Retention for middle/intermediate schools include only eighth graders who were not promoted to ninth grade. Starting in 2004, eighth grade retention calculations that conform to NCLB requirements are used.

Retention

	2004	2005	2006
Total number of students	488	467	451
Percent retained in grade	0%	0%	0%

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Vital Signs

Statewide Testing

HCPS Reading   **HCPS Mathematics**

A bar may not be shown to maintain student confidentiality (see FERPA).

HCPS Writing Test

Grade	Meaning		Voice		Clarity		Design		Conventions		Overall	
	School	State	School	State	School	State	School	State	School	State	School	State

State writing test was not given in Spring 2006.

Stanford Achievement Test, 9th Edition
Percent Average and Above

| | Reading | | Mathematics | |
| | National Norm is 77% | | National Norm is 77% | |
Grade	This School	State	This School	State
6	81%	80%	79%	84%
5	67%	77%	72%	82%
4	79%	75%	84%	85%
3	89%	82%	96%	87%

The Stanford Achievement Test is a national norm-referenced test with a range of 9 stanine levels. Scores in stanines 1 to 3 represent the Below Average category, and scores in stanines 4 to 9 represent Average and Above Average categories.
-- means "missing data"
* means data not reported to maintain student confidentiality (see FERPA).

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Kaaawa Elementary School

School Code: 305

Grades   K-6

School Status and Improvement Report   School Year 2005-06

Contents

School Address:

Kaaawa Elementary School
51-296 Kamehameha Highway
Kaaawa, Hawaii 96730

Focus On Standards

This School Status and Improvement Report has been prepared as part of the Department's education accountability system to provide regular, understandable accounts of our schools' performance and progress, as required by §302A-1004, Hawai'i Revised Statutes.

This report describes the school and its setting; provides information about the school's administrators, teachers, students and facilities; summarizes progress made based on the school's improvement plan, and reports student achievement results along with other vital signs.
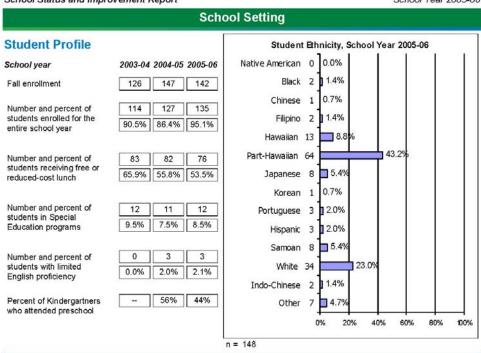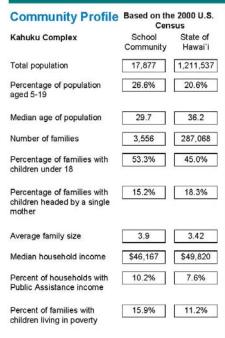
School Description
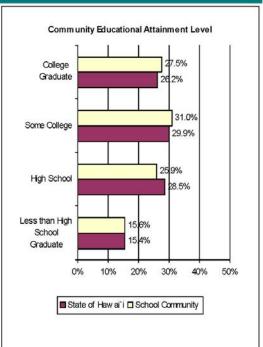
Ka`a`awa Elementary School was established in 1904 on 3.7 acres donated by Julie Judd Swanzy (Kualoa Ranch), and is located in the rural town of Ka`a`awa on the windward coast of Oahu. Ka`a`awa Elementary is one of the smallest schools in the state with only 156 students in kindergarten through the sixth grade, and serves families from Kualoa to Kahana Valley. Our school is a member of the Kahuku Complex, and our students, upon promotion to seventh grade, attend Kahuku High and Intermediate School.

The Ka`a`awa Elementary School Community Council and Parent/Teacher Ohana meet regularly and are active agents of the school community. Our school has selected Success for All as its primary reading program and Everyday Math for mathematics.

School Setting

Student Profile

School year	2003-04	2004-05	2005-06
Fall enrollment	126	147	142
Number and percent of students enrolled for the entire school year	114	127	135
	90.5%	86.4%	95.1%
Number and percent of students receiving free or reduced-cost lunch	83	82	76
	65.9%	55.8%	53.5%
Number and percent of students in Special Education programs	12	11	12
	9.5%	7.5%	8.5%
Number and percent of students with limited English proficiency	0	3	3
	0.0%	2.0%	2.1%
Percent of Kindergartners who attended preschool	--	56%	44%

Student Ethnicity, School Year 2005-06

Ethnicity	Number	Percent
Native American	0	0.0%
Black	2	1.4%
Chinese	1	0.7%
Filipino	2	1.4%
Hawaiian	13	8.8%
Part-Hawaiian	64	43.2%
Japanese	8	5.4%
Korean	1	0.7%
Portuguese	3	2.0%
Hispanic	3	2.0%
Samoan	8	5.4%
White	34	23.0%
Indo-Chinese	2	1.4%
Other	7	4.7%

n = 148

Community Profile

Based on the 2000 U.S. Census

Kahuku Complex	School Community	State of Hawai'i
Total population	17,877	1,211,537
Percentage of population aged 5-19	26.6%	20.6%
Median age of population	29.7	36.2
Number of families	3,556	287,068
Percentage of families with children under 18	53.3%	45.0%
Percentage of families with children headed by a single mother	15.2%	18.3%
Average family size	3.9	3.42
Median household income	$46,167	$49,820
Percent of households with Public Assistance income	10.2%	7.6%
Percent of families with children living in poverty	15.9%	11.2%

Community Educational Attainment Level

	School Community	State of Hawai'i
College Graduate	27.5%	26.2%
Some College	31.0%	29.9%
High School	25.9%	28.5%
Less than High School Graduate	15.6%	15.4%

■ State of Hawai'i   □ School Community

School Improvement

Summary of Progress

Staff development for the 2005-2006 school year focused on writing and mathematics.

In the area of writing, the school completed a three year project to produce the kinds and quality of student writings described by the Hawaii Content and Performance Standards. School wide, staff development focuses included: development of curriculum maps, application of rubrics for instruction and assessment, effective instructional strategies and practices, and K-6 articulation.

In mathematics, staff development focused on strengthening/deepening teacher understanding of mathematical concepts and operations.

We were able to achieve the staff development goals that we set for the 2005-2006 school year. We have also developed a monthly schedule, and have secured resources to sustain our efforts into next year.

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School Resources

Certified Staff

Teaching Staff

Total Full-Time Equivalent (FTE)   11.0

Regular Instruction, FTE	54.5%	6.0
Special Instruction, FTE	18.2%	2.0
Supplemental Instruction, FTE	27.3%	3.0

Teacher headcount — 11

Teachers with 5 or more years at this school — 6

Teachers' average years of experience — 9.0

Teachers with advanced degrees — 4

Professional Teacher Credentials

Fully licensed	90.9%	10
Provisional credential	9.1%	1
Emergency credential	0.0%	0

Students per Teaching Staff *

Regular Instruction	14.4
Special Instruction	6.0
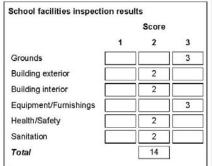
* Regular instruction includes both regular and supplemental teaching staff and does not include mainstreamed special education students. Therefore, these figures do not indicate class size.

Administrative and Student Services Staff

Administration, FTE *	2.0
Librarians, FTE	1.0
Counselors, FTE	1.0
Number of principals at this school in the last five years	2

* Administration includes Principals, Vice-Principals, Student Activity Coordinators, Student Services Coordinators, Registrars, and Athletic Directors

Facilities   *School Year Ending 2006*
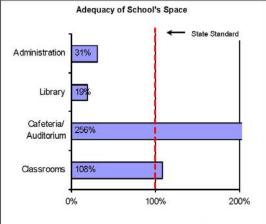
Classrooms available — 8
Number of classrooms short (-) or over (+) — -1

School facilities inspection results

	Score 1	2	3
Grounds			3
Building exterior		2	
Building interior		2	
Equipment/Furnishings			3
Health/Safety		2	
Sanitation		2	
Total		14	

For each category:
1 = Unacceptable; 2 = Satisfactory; 3 = Very Good

For Total:
6-8 = Unacceptable; 9-15 = Satisfactory;
16-18 = Very Good

Adequacy of School's Space — Administration 31%, Library 19%, Cafeteria/Auditorium 256%, Classrooms 108%

School facilities are considered inadequate if below 70%; marginal if between 70% and 99%; and in excess of state standard if above 100%. School population is placed into size categories and is used in formulas to determine State standards for space. Graph does not display capacity exceeding 200%.

Vital Signs

School Quality Survey

The School Quality Survey (SQS) is conducted every two years. The first 6 dimensions correspond to those in the Standards Implementation Design. The last 3 dimensions fulfill reporting requirements of Chapter §302A-1004 Hawaii Revised Statutes.

Percent of Positive Responses

School Quality Survey * Dimensions		Teachers School	Teachers State	Parents School	Parents State	Students School	Students State
Standards-Based Learning	2003	81.1%	--	67.5%	--	71.3%	--
	2005	94.2%	87.4%	74.9%	77.1%	77.7%	76.5%
Quality Student Support	2003	65.7%	--	68.2%	--	57.7%	--
	2005	90.4%	79.7%	73.7%	72.9%	65.0%	66.4%
Professionalism & System Capacity	2003	66.7%	--	73.1%	--	77.8%	--
	2005	95.8%	77.6%	90.0%	83.7%	100.0%	84.4%
Coordinated Team Work	2003	75.8%	--	47.7%	--	60.0%	--
	2005	95.8%	77.2%	60.8%	58.4%	68.4%	64.0%
Responsiveness of the System	2003	72.7%	--	62.2%	--	There are no student items for this dimension	
	2005	95.8%	82.9%	74.9%	70.3%		
Focused & Sustained Action	2003	92.3%	--	48.7%	--	72.4%	--
	2005	97.9%	80.2%	59.7%	57.3%	58.7%	72.9%
Involvement	2003	84.8%	--	59.2%	--	60.0%	--
	2005	95.8%	85.6%	72.1%	68.5%	56.3%	59.8%
Satisfaction	2003	57.6%	--	56.6%	--	63.3%	--
	2005	95.8%	65.8%	63.0%	70.6%	76.9%	72.8%
Student Safety & Well Being	2003	81.8%	--	75.2%	--	57.5%	--
	2005	95.8%	86.0%	78.7%	75.1%	63.4%	65.0%
Survey Return Rate **	2003	100.0%	--	28.9%	--	68.8%	--
	2005	88.9%	78.6%	22.2%	23.8%	94.1%	91.1%

* State Teacher and Parent positive response figures are one of 4 grade spans (Gr. K to 5/6, Gr. 6/7 to 8, Gr. 9 to 12, and Multi-level) that best correspond to this school's grade span. The Student positive response figures for the State and this school are those of the highest grade level surveyed at this school.

** State Return Rate for Teachers, Parents, and Students are for one of 6 grade spans (i.e., Gr. K to 5/6, Gr. K to 7/8, Gr. K to 12, Gr. 6/7 to 8, Gr. 6 to 12, and Gr. 9 to 12) that correspond to this school's grade span.

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Vital Signs

Student Conduct

Attendance and Absences

	School Year		State Standard
2003-04	2004-05	2005-06	

Average Daily Attendance: %
(higher is better)

95.3%	95.3%	93.9%	**95.0%**

Average Daily Absences: in days
(lower is better)

8.4	8.3	10.5	**9**

Suspensions, School Year 2005-2006

Non-suspended:	139
Suspended:	3
Class A:	0
Class B:	3
Class C:	0
Class D:	0

These 3 students were responsible for these 3 suspensions.

Examples of class of suspension:
Class A: Burglary, robbery, sale of dangerous drugs
Class B: Disorderly conduct, trespassing
Class C: Class cutting, insubordination, smoking
Class D: Contraband (e.g. possession of tobacco)

School Retention

Retention for elementary schools include students in all grades except kindergarten who were retained (kept back a grade). Retention for middle/intermediate schools include only eighth graders who were not promoted to ninth grade. Starting in 2004, eighth grade retention calculations that conform to NCLB requirements are used.

Retention

	2004	2005	2006
Total number of students	108	129	124
Percent retained in grade	0%	0%	0%

96

Vital Signs

Statewide Testing

HCPS Reading

HCPS Mathematics

☐ School   ■ State

A bar may not be shown to maintain student confidentiality (see FERPA).

HCPS Writing Test

Grade	Meaning		Voice		Clarity		Design		Conventions		Overall	
	School	State	School	State	School	State	School	State	School	State	School	State

State writing test was not given in Spring 2006.

Stanford Achievement Test, 9th Edition

Percent Average and Above

| | Reading | | Mathematics | |
| | National Norm is 77% | | National Norm is 77% | |
Grade	This School	State	This School	State
6	85%	80%	100%	84%
5	79%	77%	79%	82%
4	95%	75%	100%	85%
3	82%	82%	89%	87%

The Stanford Achievement Test is a national norm-referenced test with a range of 9 stanine levels. Scores in stanines 1 to 3 represent the Below Average category, and scores in stanines 4 to 9 represent Average and Above Average categories.
-- means "missing data"
* means data not reported to maintain student confidentiality (see FERPA).

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APPENDIX B

**Description of the Full-Day Professional Development Institutes
Conducted for the ARTS FIRST Windward Research Project**

**Description of the Full-Day Professional Development Institutes
Conducted for the ARTS FIRST Windward Research Project**

Professional Development sessions remained a significant part of teacher training during the third and last year of the ARTS FIRST Windward Research Project. While the first year emphasized drama for third grade teachers of the project schools, the second year's teacher training placed emphasis on music and dance for teachers in grades three and four. During the third year the professional development sessions emphasized the visual arts for fourth and fifth grade teachers only.

First Professional Development Session

As reported and described in the Year 2 evaluation's summary of the PD institutes, the project's seventh and last professional development session for the second year was also the first professional development session for the third year of the project. It took place on May 5, 2005 from 8:30AM–2:30PM at Ben Parker School for teachers from Ben Parker and Koelu Schools. On May 24 the same session was repeated for teachers at Lā'ie School. These two sessions were the only ones during this 3-year project, when teachers from all three grades levels were together at a professional development session. It is significant to reiterate that this particular development session was a turning point for the project, when Deb Brzoska presented a new and final configuration of learning strategies. From this point on everyone involved in the project would use the three umbrella strategies observing, patterning, and representing. The new strategies encompass not only all the previously developed 18 strategies, but they also embrace all of the visual and performing art forms.

Second Professional Development Session

The second professional development session for project year three, for grades four and five teachers from the three project schools, took place on September 19 and 20 at Lā'ie School from 8:30AM–2:30PM. All twelve teachers were present. The umbrella strategy observing was selected for this 2-day workshop. On the first day the drama artist/mentor Natalie McKinney started by using a warm-up exercise with the group. She asked participants to move from one side of the room to the other by changing the way they walked. She then asked them to share how they felt having done so. In a circle formation every participant introduced himself/herself and the role they have in this research project. Natalie then used the (sub) strategy pantomime. She opened a magic box, removed an imaginary object and proceeded to use it. The imaginary box was passed from one person to the next. Each teacher removed a new object from the box and "used" it. Participants then shared three descriptive words that helped them figure out the

next person's imaginary object and use. Natalie then shared the effective use of vocabulary description with students in the classroom.

Lei Ahsing, the Hawai'i Arts Alliance programs director and coordinator for this project, introduced the ARTS FIRST Windward Research Project Year Three 2005-06 binder to the teachers and discussed the first part of its contents (calendars and contact information). This observing binder is the first one of three strategy binders the teachers will receive during the year. Lei also announced other issues as the related to professional development.

Marcia Pasqua, one of the two visual arts artists/mentors, handed a small brown bag with a different small object inside each bag to every teacher. Teachers were instructed not to open the bags and draw the object with their dominant hand, while the other hand was feeling the object inside the bag. In writing, the teachers then described the textures and shapes they felt, and wrote their interpretation of the object. In small groups teachers shared their involvement in this exercise. They expressed that they liked the simultaneous experience of touching/feeling the object and drawing it. Marcia recommended presenting this exercise to their students multiple times to sharpen their observing skills, as well as their senses, coordination, and imagination.

Deb briefly shared her current national art education research involvement with the group. She stated that the "national theory" believes that art will help students' learning in mathematics, reading and writing. She stated that a special part of the ARTS FIRST project, compared to other national models, is the presence of the artist/mentor in the classroom, along with the teacher.

Deb walked teachers through the Observing binder and highlighted the sections presented, pointing out that everything in the binder is connected to the most recent Hawaii Department of Education's Hawaii Content Performance Standards III (HPCS III). The first two sections of the binder show the agendas for September 19 and 20, 2006 and are followed by strategy applications for observing (five for the first day and three for the second day of professional development). The format of the strategy application is a most vital part for artist/mentors and teachers alike. Its correct use bridges the professional development with the HPCS III, connects the students to the research, and ultimately creates new, art-based curriculum for other areas of learning.

The matrix of the strategy application is designed in such a way that it can be used for all three strategies and all of the arts. Each strategy application gives the title of the lesson, the strategy (observing, patterning, or representing), the art form (dance, drama, music, or visual arts), and the strategy's use (classroom community/classroom management, assessment, or teaching new information). The next section highlights the content area (reading, writing, or mathematics) and the grade level it is applied to. Next, the strategy application addresses the

Standards and General Learner Outcomes (GLOs) as stated in the HCPS III, and as they apply to a particular lesson. This section is followed by the preparation of the lesson and the sequence of teaching the lesson. The procedure section brakes down the steps of the lesson plan according to the ARTS FIRST concept of Creating/Performing/Responding (CPR). The section also includes assessment of the students. The fourth part of the binder addresses *Additional Observing Applications* in all four of the art forms. The observing applications are subdivided into the three strategy applications of classroom community/classroom management, teaching content (in arts and other subjects), and assessment. The last section of the binder, labeled HCPS III, starts out with a framework for linking the arts to other core areas for grade 4 and grade 5. In this framework Deb and Lei created a format that includes topics about how the arts are organized, how they communicate, and how they shape and reflect culture. The framework is linked to the *General Learner Outcomes* (GLOs) and the *Benchmarks* for social studies, language arts, science, and mathematics as they are stated in the HCPS III. The next part highlights the four standards for the arts, and illustrates how the above-mentioned framework addresses the grade-specific benchmarks of the HCPS III for grades K-5. The last section shows the General Learner Outcome Rubrics for grades 4-5 in the language arts and mathematics, as they are found in the HCPS III.

In summary, Deb pointed out that most educational terminology in the binder refers to that of the Hawai'i Department of Education. She also wanted everyone to remember that only the fifth grade teachers were new to this research project and the fifth grade students who "brought all the knowledge to the table," meaning that these students have been part of the research project since its start two years ago when they were in third grade. Since then these students already acquired the experience of connecting writing, reading, and mathematics with drama, music, and dance.

With drama artist/mentor Dan Kelin, the teachers used visualization as a strategy application for teaching new information in writing. As the teachers closed their eyes Dan walked them through the beginning of the *Crow Boy* story, describing what the main character in the story experiences on his way to school. Teachers then opened their eyes and Dan went through examples of some of the strong images in the story. He then asked the teachers to make the story personal by writing a five to six minute journal entry starting with "On my way to school..." Teachers wrote down the images they visualized during the story telling. Dan suggested using questions as a visualization tool while writing their journal entry since questions often solidify images and encourage detailed writing. He cautioned that visualization is based on children's own experiences and that children follow their own way from their own perspective, not from somebody else's perspective. He also stated that visualization leads to writing in this lesson, but

could lead to reading. Dan then referred teachers to this lesson's written strategy application in the observing binder.

In the next lesson Vivien Lee, the dance artist/mentor, uses music for teaching new information in writing. She read part of a story about *Ali Baba* and proceeded to retell it by clapping on her knees by echoing one line at a time with a steady beat and rhythm. She asked teachers to make up a sentence that describes Ali Baba and later what he likes to do. Each teacher created a descriptive sentence, which was echoed by the others in the circle. In five smaller groups the teachers worked on an ending section of their version of the Ali Baba story. They wrote four sentences creating a resolution to the story and then presented/performed their story versions to the large group. Vivien showed how a metronome could help keep the beat. She referred teachers to her lesson's written strategy application in the observing binder.

With Vivien, the teachers use mirroring as a strategy application for classroom community/classroom management. This activity quickly focuses a group. While listening to calming music teachers formed pairs. One lead with moves that synchronized with the music and the other mirrored the moves. Teachers then switch leaders. In good mirroring it is hard to figure out who leads and who follows. The exercise is beneficial for classroom management because it is slow, but could be used for community building where the leader models and the follower mirrors. Faster music with traveling could be used as an energizing exercise, and facial expressions could also be added. This strategy application is not directly related to the HCPS III, but could be applied to the General Learner Outcomes.

Teachers formed smaller groups by grade levels and shared what some of their challenges and goals were in their classes. While some brought up classroom community problems like respect, others were concerned with classroom management problems. In the fourth grade some of the challenges included improving low academic achievements, especially in mathematics, problem solving, homework issues, and the lack of following written directions. Fifth grade challenges included pier respect, limitation of physical space, lack of ability for detailed writing, and test stress.

Under Deb's guidance, the teachers studied the Teacher Planning Form for the third project year, which includes a strategy application form and a strategy application reflection form. Teachers brainstormed and decided which of the five lessons they learned, they were going to use in their classroom. Artist/mentors and the teachers then scheduled dates for the lesson to take place with their students.

The observing binder includes thirteen complete lessons .The artist/mentors are able to model all of them for the teacher's classroom even though some content areas might not be their

forte. Teachers then discussed with their artist/mentor which of the observing lessons they might want to have modeled in their classroom during the year.

Lei presented the third year's calendar for the professional development and requested that the teachers send one strategy application and with one strategy reflection to her by October 31, 2005. She informed the teachers that they could receive extra DOE credit and/or points for reclassification for participating in this research project. The project evaluator Brian Lawton asked teachers to fill out a teacher attitude survey and a professional development evaluation. He also scheduled class visitations for pre-testing students' interests in the arts.

On September 20, 2005, the second day of the second professional development session for year III took place at Laiʻe School. Deb reminded the teachers that this project is not just about attending professional development where, after completion of the workshop, the teachers are left alone with the newly acquired information. In this project mentors are always there to assist teachers and answer their questions. She encouraged the teachers to ask themselves what they wanted to get out of this year as a result of being part of the project. To find answers to their questions teachers formed two smaller discussion groups with Marcia and Noni Floyd, the second artist/mentor. In Marcia's group teachers expressed a need for help in mathematics, especially in geometry. They felt that they do not need assistance in the actual measurements, but in understanding the concept of measurements, which teachers felt is a constant theme students do not understand. Noni's group looked at the 5th grade benchmarks for language arts and mathematics and isolated teaching problems and materials from them. The group concluded that students should learn to visualize problems and come up with solutions to them. Noni raised the concern that while students need time to illustrate stories and need to learn how to illustrate them, elementary teachers themselves often do not know how to draw a human figure. She expressed that one of her goals was to have quick art lessons that reinforce students' learning in the language arts and mathematics. She also pointed out that different from the performing arts, where supplies are rarely needed, all art supplies for the project are provided by the Alliance.

Noni and Marci presented the first of three observing strategies for the day. Noni displayed a poster of a Marc Chagall painting. She asked teachers to come up and point to details of the painting and describe them. In the process the teachers developed a list of appropriate art and language arts vocabulary. Noni briefly introduced Chagall as an artist. Teachers then compared the painting with another one of Chagall's works pointing out similarities and differences in both. As a strategy application for classroom community/classroom management this lesson can be used for focusing as well as for assessment of vocabulary and art elements and principles. The lesson addresses the GLO's of the self-directed learner and complex thinker.

In the next section of "Unpacking the Strategy," Deb introduced the teachers to the concept of Create-Produce-Respond (CPR). It originated at the Museum of Modern Art (MOMA) in New York and was adopted in part for the Alliance's *ART'S FIRST Toolkit*. Deb used an example of *Paul Klee's* work to highlight the responding part of the CPR, where students are to respond to artwork in three steps. In the first step they describe the art by naming the things they see. It is a "safe" step, because students only state what they see. In the second step they infer by starting out with "I think…," or "I wonder if…" In the third step students are to judge the art with statements like "I like/don't like because…." Here, Deb reminded teachers to only use other artists' work for judging, and not to use the students' art.

Noni worked with the teachers by applying the above steps, using works by Klee (*Bow*), Kandinsky (*Points in a Bow*), and Chagall (*I and the Village*) as examples. She elaborated on each step and reminded teachers that each child can see whatever s/he wants to see in a painting. Deb then asked the teachers if they would use the "popcorn" effect to have every child participate. She suggested that, ideally, the teacher should pull out of being part of the students' group discussion. Marci suggested that the design elements and principles be applied throughout. Teachers wanted to know where they could get the visuals used for this session, and were referred to the Honolulu Academy of Arts' Lending Library, other museums, and the Visual Arts Specialist for the Hawai'i Department of Education.

In the "I Spy, Memorizing Game," Marci asked the teachers to study the Van Gogh painting *The Artist's Bedroom at Arles* in detail, and memorize what they saw. After removal of the poster they wrote down a list of words of what they had seen and could remember. Marci, with the painting visible to all again, discussed with the teachers what they had seen and had remembered. While Marci suggested that they could remember things in the painting by identifying them with descriptive colors, Deb suggested writing keywords to a story setting (and later writing a story without knowing much about Van Gogh), while Noni felt one could sketch the items, which could be done through contour drawing, or "air" drawing." Based on Deb's observation and recommendation the program was adjusted so the teachers could learn some basic drawing techniques, including blind contour, contour, and shading through cross hatching and gradation of value.

In another approach to the "I Spy, Memorizing Game" each of two groups received a poster (Georges Seurat's *Sunday Afternoon on the Island of La Grande Jatte* and Jacqueline K. Ogburn's *The Magic Nesting Doll*). Each teacher shared a simple statement of what he/she observed in the painting, and then advanced to a more obscurely illustrated detail. Teachers also applied the design elements and principles as they observed them in the work of art. Each poster

was than shared with the other group. Members of the first group named ten to twelve items seen in the composition and asked the other group to point them out. Marci briefly introduced the work and life of Seurat. She also shared how to effectively manage this visual arts lesson in a regular classroom. Noni suggested that each child should come up with one simple and one complex "clue" and then share both with a larger group.

Noni presented the next visual arts lesson, "We Spy, Illustrating Text," which also addressed assessment in the observing strategy. She read a paragraph (page 5) from Gary Paulsen's book My Life in Dog Years. She then asked the teachers to share details of the just read excerpt and give short visual descriptions of the character. Noni asked what could be inferred from the reading, what could be assumed, but was not written. She introduced another paragraph, and only then did she hand out a copy of the page read. She asked teacher to describe and write down two events, one real and one inferred, from the read material. On the backside of a piece of paper teachers then drew what happened and what was projected into the future. Teachers shared their inferences and drawings taken from the text. Only then did Noni fill in the details of the story. She also referred to the Language Arts Benchmark this particular lesson could be applied to. Some teachers expressed that sharing artwork was not a requirement they would ask of their students. Deb expressed that teachers need tools to build their drawing know-how, but also shared that teachers' and students' illustrations could be represented through symbols rather than actual drawing techniques.

In the next lesson, an example of teaching content in the observing strategy, Noni and Marci presented the visual arts session entitled "Gargoyles Galore." Noni enlightened the teachers on this medieval architectural phenomenon and how it could be used in a classroom setting. While sharing traditional examples of gargoyles, she also mentioned that tiki, totem, and masks could be used for this lesson. Noni asked teachers to use basic shapes and symmetry in creating their gargoyles, and to be as "crazy" and free in this 10-minute 2-D drawing/designed assignment. Teachers then wrote a step-by-step description of the process and handed it to a teacher at another table. Each teacher used the drawing instructions written by another teacher and drew the gargoyle according to them. When assessing the outcomes of this lesson teacher concluded that those instructions that provided more detailed steps in the write-ups resulted in more detailed second drawings. Teacher also noticed that the second drawings appeared to be more "mellow" in expression. This lesson addressed the Language Arts Benchmark 5.5.2 ("Using significant details and relevant information to develop meaning").

At the end of this professional development session Brian shared the weekly log information with the teachers and gave them more specific instructions steps in completing them. Teachers

also met with their mentors and worked out more detailed planning for the rest of the year.

Third Professional Development Session

The third professional development session for year took place on November 9, 2005 from 8:30AM–2:30PM at Ben Parker School. The selected umbrella strategy for the day was patterning. Due to the fact that the writer of this report was off island during the time of this workshop, she will only briefly describe the workshop by taking the information from the day's printed agenda and Patterning Strategy binder.

Marci started the program by using "Border Designs" as a visual arts lesson for teachers to see relationships, sequencing, and repeating, when designing in art. Teachers designed 3" by 12" paper strips with pencils, crayons, and/or markers. By folding the paper they created two alternating patterns that connected with each other. These borders could be used for decorating the classroom in various ways. As a classroom/community management strategy this lesson helps students become aware of variations in patterning.

In reviewing the observing strategy, teachers paired off and shared with each other one of the strategies they used with their students. Teachers collectively brainstormed on their successes, why their lesson worked well, and why they made specific choices for strategies.

Lei announced that the professional development session for March 20, 2006 would be moved to May 16, 2006. The group then discussed schedules and deadlines for videotaping teachers, which would document teachers teaching their selected strategy to their students. In the "I Move You Move" dance lesson Vivien presented a patterning strategy as a classroom community/classroom management application. She created movement patterns for the teachers to imitate. To music with a strong beat in 2/4 or 4/4 time, and immediately after the 4 counts, teachers echoed Vivien. Her patterns became more complex as the teachers became more adept at echoing her movements.

Next, Noni presented the visual arts lesson "Railroad Tracks" as a teaching new information application in the patterning strategy. In it, through simple linear perspective, visual learners would understand mathematics patterns and relationships more readily. In this lesson specific General Learner Outcomes were address, as well as visual arts and mathematics benchmarks. Teachers studied two works of art, a Byzantine print in which people and buildings are shown before perspective was used, and DaVinci's "Last Supper." With the use of key arts vocabulary and detailed step-by-step instruction from Noni, teachers created a one-point perspective railroad track going into the distance to the vanishing point.

With "Rhythmic Patterns" Vivien presented an assessment application in the patterning strategy. Through music, this approach can assess whether or not students can explain how to

add fractions with different denominations to make a whole. Teachers created and then performed a one-measure rhythm, using quarter, half, and eighth notes. Each person on a team of four composed one measure of rhythm by writing music symbols on Post-It notes and later explained, using mathematics terms and fractions, how his /her measure equaled four beats, or one whole. Teachers could use percussion instruments or clapping to present their solutions.

In the "Story with Numbers" drama lesson Dan taught new information with the patterning strategy. The lesson helps students visualize and make sense of word problems. By interpreting, developing scenes for, and performing a given word problem, students would learn to understand the context of it through words and action. It also would prepares them to write their own word problems. In this lesson teachers presented number problems and developed a story based on the number sequencing. Using characters, action, and dialog, small groups of teachers developed their own story based on a number sentence/equation, built a scene around it, and shared it with the other groups.

A question and answer session on all patterning strategies followed. At the end of the day small group of teachers worked with an artist/mentor and wrote patterning strategy applications , which they later shared with all teachers.

Fourth Professional Development Session

The fourth professional development session for the third year took place on January 17, 2006, 2005 from 8:30AM–2:30PM at Keolu School. As a warm-up and a classroom community/classroom management strategy application Natalie asked teachers to first form a circle. Echoing her, they clapped their hands one round at the same time. This was followed by the domino effect of clapping sequences in both directions. The last variation included echoing a clapping sequence as fast as possible.

This professional development day focused mainly on the representing strategy. Still standing in a circle, Natalie used "Frozen Domino" where teachers were asked to copy her expression to show feeling and thought through facial and body expressions. They repeated her words like happy and mad, did the expression, and froze it. Then everyone though of his/her own word and "physicalized" it through appropriate gestures in a frozen position which had to be kept until the next person in the circle had his/her turn. Natalie asked teachers to give a title to the gesture. In a summary discussion of these frozen expressions teachers felt that this lesson would be an effective way of learning and using new vocabulary, particularly adjectives, as they relate to reading.

Brian gave an update on the evaluation part of the project. He asked if teachers could provide him with different email addresses, since he has trouble with lotus notes. He would also send

hard copies of any materials teachers needed. He explained the process of when teachers' lessons would be documented on video, and that the last 45minute teaching session would be a teacher's solo and final. For this event each teacher would select one art area (visual arts, dance/music, or drama). The lesson would first be modeled by the artist/mentor, followed by being co-taught, and lastly solo taught by the teacher. Brian asked teachers plan each of these events with their artist/mentor in a timely manner, since all of the filming needed completion by May 16, 2006.

Deb reiterated that the day's emphasis was on the last of the umbrella strategies, representing. She asked teachers to move to the other area of the room and present themselves in a different shape and gesture of someone or something. She then analyzed and interpreted several of the representations. She pointed out that details are important and need to be looked at in order to avoid misinterpretation of the representation. She discussed with the teachers how some of them might change their representation for better interpretation.

In her dance lesson "Pele Words" Vivien introduced the representing strategy and addressed a language arts benchmark (4.1.1) and a performing arts benchmark (4.4.1). She discussed homophones and homographs, and introduced grade-level -appropriate vocabulary taken from the book Pele and the River of Fire. She read the book to the group and from it extracted a vocabulary list that included action words (nestle, scorch, rekindle, collide, flow, quake, wrap, rise, and burst), nouns, adverbs and adjectives (commotion, caldron, crust, canopy, journey, guide, furious, continually, and restless), as well as a few Hawaiian words (pa hoehoe, 'a'a, and pa oa). After reviewing basic dance elements Vivien went through the story's relevant vocabulary, presented examples of dance movements for it, and had the teachers create moves for the action words. She then asked teachers to interpret part of the story using action words that were assigned to them in a set of three. In small groups teachers created, practiced, and presented a simple dance. Each dance was choreographed with a freeze-ABC-freeze pattern. To accompany the dance with a sound source Vivien kept a steady beat using an ipu (gourd instrument). Vivian shared the following handouts: "Things to Consider while Making a Dance" and "Let's Make a Dance."

During the lesson's assessment process teachers discussed the use of space, levels of presentation, degree of movement, use of dance elements, energy level, and change of tempo. Teachers pointed out that they spend a good amount of time on vocabulary with their students, introducing 10-20 new words each week. At least a few could be acted out through dance or drama. Deb pointed out that the closer the art ties with the reading assignment, social studies, or mathematics, the more meaningful and the closer the adoption of the lesson would be. She also suggested that writing assignment should include the description of the dance and the newly

learned vocabulary.

Marcia, in her visual arts lesson "Peace Quilt," used the representing strategy to address the concept of harmony and freedom from conflict. She told teachers to close their eyes and imagine a place of peace. She asked reinforcing questions that could trigger each teacher's place of peace, like looks, smell, color, emotion, or things they could touch and how they felt in that place. Teachers wrote down a list of words associate with their place of peace, and things they experienced there. This brainstorming represented the foundation for each teacher's art quilt. After presenting some historical background on Hawaiian quilts, Marcia shared some pictures of Hawaiian quilts, and pointed out the quadrilateral symmetry of most of them. Teachers selected two words from their vocabulary list and Marci encouraged them to arrive at symbols reflecting their place of peace. Once the symbols were drawn, teachers selected construction paper for their borders, background and symbols. While some teachers cut out individual design shapes, others treated their designs like a traditional Hawaiian quilt top by folding their paper into quarters to create the design and then cutting it out as a single shape. After teachers glued their shapes down they shared their peace quilt and the symbolized words associated with it. Individual quilt were then arrange to create a larger communal quilt. The applicable Language Arts Benchmark L.A. 5.5.2 and Fine Arts Benchmark 5.1.1 were discussed. Some teachers expressed that this lesson could also apply for mathematics.

As a warm-up technique and a classroom community/ classroom management exercise prior to her lesson, Natalie asked the teachers to count the foot-in-front-of-foot steps it took them to get to a newly assigned location in the room. Then, using the domino effect, teachers shared the number of steps it took. In the drama lesson "When We are a Story" Natalie used the represent-ing strategy to address the Language Arts Benchmark 5.4.1, and the Fine Arts benchmark 5.3.1 to improve writing through drama. She used the Open Court Reading book *The King's Splendor* by Lloyd Alexander. After Natalie had read the story to the group, teachers proceeded to create a tableau narration based on the story. Teachers then isolated the characters, the places, and the events of the story. Each teacher selected a character and recreated it in a frozen shape. Because the fifth grade teachers had limited drama experience within the project Natalie spent time reviewing the basics of tableau and pointed out its good elements. Teachers created five different scenes representing characters of the story, which they followed by creating one-line narrations for their characters. Within each group teachers discussed and finalized their narrations, which had to be third person. Teachers then integrated their narration into the previously developed tableau and presented it to the other groups. When assessing the lesson teachers felt that it was harder to deliver the story in third person as apposed to presenting it in first person, but they said

that the narrative became clearer when it was given in the third person. Since clarifying narratives is part of the language arts benchmark for the lesson, it addresses this benchmark well.

At the end of the professional development teachers scheduled meetings with their artist/mentors. Brian worked with the teachers for scheduling the taping of their lessons.

Fifth Professional Development Session

The last professional development meeting for the third year and the entire research project took place on May 16, 2006, 2005 from 8:30AM–2:30PM at Lā'ie School. After every teacher and artist/mentor was given a lei, Marci presented an "ART Making Collage" lesson. After providing some historical background on collages she demonstrated the process of creating one. She placed torn and cut tissue paper (smooth and texture) on a stretched canvas and brushed acrylic medium over the paper to hold it in place. As the theme for their collages teachers selected a successful event or specific highlight of their experience in the ARTS FIRST Research Project. Teachers and everyone involved with the project present that day, participated in the collage making process. Upon completion of the artwork everyone shared his/her collage and reflected on their thinking related to it.

In a story-building lesson using drama Dan asked teachers to select a "Moment of Success" from the past year. In small groups of 3-4 teachers shared their successful moment and then discussed how they could tell their story in a tableau. Each group had a director (rotating role) while other group members became actors. Groups developed and presented frozen pictures showing good examples of expression at various levels. Next, Dan asked teachers to create a scene that told a momentary story rather than one that lasted over a longer period of time. After having the process clarified, teachers decided which scene to develop and present. One of the groups used the peace quilt lesson to teach symmetry, while another group selected the vanishing point lesson as its moment of success, which also included students teaching this concept successfully to slower learners. The third group created its tableau based on cultural heritage and diversity presentations their students had shared in class. The last group integrated the story of Ali Baba as a stressed teacher's nightmare before she was about to teach it to her students for the first time. During the assessment the teachers felt that they had become comfortable in using drama as a teaching tool form themselves and a learning tool for their students.

Brian asked teachers to fill out the Teacher Attitude test. They also worked with Brian on scheduling the Student Questionnaires. Deb announced that the Hawaii DOE would continue to be involved with this type of research/work in the future. Lei announced that the ARTS FIRST Toolkit had been rewritten, that it included the teachers' work, and that if would be available in the fall of 2006. Concluding Lei gave the teachers certificates of participation and tokens of appreciation.

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APPENDIX C

Student Attitude Survey:
Development and Validity Studies

Student Attitude Survey:
Development and Validity Studies

The present document gives a thorough description of the development of the instrument and of the validity studies of data collected with the instrument. The instrument is shown in the final pages of the document. The analysis of the student results obtained from this instrument for year three were analyzed based on the results of our validity studies explained here.

Instrument Development

Initial Development

The first step in the development of the instrument was to search for existing instruments with validity data that could serve as a model for the Student Attitude Survey. We initially searched the Educational Resource Information Center (ERIC) database for elementary-level student attitude surveys but did not find instruments with strong validity evidence or with a close match of the constructs to our research purposes. Therefore, we widened the search to include K–8 student attitude instruments. The best match we found was the School Attitude Assessment Survey–Revised (SAAS-R) (McCoach, 2003), a middle-school instrument that addresses academic self-perceptions and attitudes toward school. The 35-item instrument includes 8 items on academic self-perceptions, 7 on students' attitudes towards teachers, 5 on attitudes toward school, 6 on goal valuation, and 10 on motivation/self-regulation. We eliminated the items addressing attitudes toward teachers, goal valuation, and motivation/self-regulation, because they were inappropriate for our study. We then used the remaining items as models, editing them to ensure that they were appropriate for elementary-level children, as follows:

1) *Revisions in the set of academic self-concept items:* Three items were reworded, one was deleted, one was stated in the negative, and one was not revised. "I am intelligent" was changed to, "I am smart;" "I can learn new ideas quickly in school" was changed to, "In school, I learn new things fast;" "I am capable of getting straight As" was changed to, "If I try, I can get good grades;" "I am good at learning new things in school" was changed to, "I am not good at learning new things."

2) *Revisions in the set of attitudes-toward-school items:* Two items were deleted, two were not changed, one was changed to the negative, and three were added. "I like this school" was changed to, "I don't like this school," and "I like being at school," "I like to learn at school," and "School is fun" were added.

3) *Items written about attitudes toward reading and mathematics:* Additional items were added to consider attitude and self-concept toward reading and mathematics, which are the specific

subject areas of interest for our project: 10 items were added about reading and mathematics self-concept (5 items each) and 4 were added for attitudes toward reading and mathematics (2 items each).

4) *Change in the item scale.* The rating scale was changed from a 7-point Likert-type agreement scale to a 3-point Likert-type agreement scale ("I agree a lot," " I agree some," and " I don't agree"). This was done to provide more simplicity for the elementary age population. When analyzing the data collected with the instrument during the first year of the project, however, we found that mean scores with the 3-point scale showed little variation among the students. Therefore, we changed the response options to a 4-point scale in Year 2.

The final pilot-test version instrument included a total of 26 items.

Pilot Testing

The School Attitude Survey was administered to 20 second- and third-grade students' attending the CRDG's University Laboratory School (ULS). Coefficient alpha for academic self-concept = .78 and for school attitude = 0.59. The reliability might have been lower than desirable because half the students were second-graders, while the instrument was targeted for Grades 3–5. After the pilot test, one school attitude item was added to the survey and other items were revised to ensure that the reading and mathematics items were comparably worded. A follow-up pilot test, which would have helped confirm the appropriateness and quality of the revisions, was not conducted due to time constraints.

Validity Analyses

With the data collected during the project, we conducted validity studies, including analyses addressing content validity and analyses addressing construct validity.

Content Validity

Content validity is demonstrated in part by showing that the items of an instrument adequately address the intended content. Our description of the development of the instrument above shows the procedures for developing all the instruments that we prepared for this study. It shows how the items were based on a previously validated instrument, were written only for the subjects that were addressed in the AFWRP project, and were carefully pilot-tested. We believe that these procedures are adequate for ensuring that the instrument addresses the appropriate content for a measure of elementary students' attitudes toward school, toward reading, and toward mathematics.

Content validity is also demonstrated by showing the technical quality of an instrument. A hallmark of technical quality is the reliability of data collected with the instrument. We used two methods to examine reliability. The first was the test-retest method. This method yields results showing the consistency of responses to an instrument on two occasions. We administered the

instrument twice in the spring of 2005 to 37 ULS students in Grades 2–5, the first time on a Friday and the second time on the Monday of the following week. The correlation of total scores between the two occasions = .88, suggesting high test-retest reliability. The correlations among individual items ranged from .40 to .90, with an average correlation of .70, also suggesting high reliability. A generalizability theory analysis, in which we examined the variation due to students, items, and occasions, showed that none of the variance was due to occasion, again suggesting high test-retest reliability.

The second reliability method we used was the internal-consistency method (coefficient alpha). We found that alpha = .84 for the pretest and .87 for the posttest, suggesting high reliability. The results of all these analyses provide strong evidence of the reliability of the data collected with the Student Attitude Survey.

Construct Validity

Construct validity has to do with the extent to which instruments reflect the educational, psychological, social, or other constructs that they are intended to address. One method for examining the extent to which data from a survey instrument gives evidence of construct-related validity is to conduct factor analyses, which separate items into factors (groups) that should reflect the constructs on the instrument.

We conducted factor analyses (using SAS PROC FACTOR with the promax rotation method) of the Spring 2005 results for Grades 3 and 4 and of the Spring 2006 results for Grades 3–5 on the 26-item School Attitude Survey ($N = 783$). The instrument was designed to addresses two constructs—attitudes toward school and academic self-concept. If scores on the instrument are to be deemed valid, the factor analysis should divide the items into two groups reflecting these two constructs. With the exception of Item 18 , which was developed to address the attitudes toward school construct, and Item 12, which was developed to address the academic self-concept construct, the results of the factor analysis, given in Table C-1, reflect precisely this division. Furthermore, with the exception of the Item 5, which has the lowest factor loadings shown in the table, the results are similar from year to year. These results demonstrate that the items address the two constructs.

Further Revisions

Most of the students surveyed in Year 2 of our project reported strongly positive attitudes toward school. The mean Student Attitude Survey scores in Year 3 continued to show little variation among the students, despite the change in the response scale from three points to four points. However, the factor analysis results clearly showed that some of the items accounted for much more variation

Table C-1

Factor Loadings for the School Attitude Survey[a], Years 2 and 3

Item	Factor loadings, Year 2[b]		Factor loadings, Year 3[b]	
	Attitudes toward school	Academic self-concept	Attitudes toward school	Academic self-concept
22. School is fun.	**.78**	-.02	**.85**	-.05
2. I am glad I go to this school.	**.79**	-.08	**.81**	-.09
13. I like being at school.	**.78**	-.09	**.80**	-.08
17. I like to learn at school.	**.76**	-.00	**.76**	.06
4. This is a good school.	**.77**	-.10	**.80**	-.10
7. Reading is fun.	**.60**	.04	**.56**	.20
23. Math is fun.	**.54**	.25	**.40**	.35
9. I don't like this school.	**.49**	.20	**.66**	-.06
3. Reading is boring.	**.54**	.12	**.39**	.27
25. I don't like to come to school.	**.48**	.17	**.63**	.04
12. If I try, I can get good grades.	**.47**	.02	**.39**	.17
15. I am not good at math.	-.16	**.75**	-.10	**.72**
6. Math is hard for me.	-.08	**.69**	-.13	**.64**
19. I do not understand math.	-.20	**.69**	-.05	**.71**
16. I am not good at learning new things.	.11	**.60**	.03	**.57**
21. Math is easy for me.	.05	**.60**	.05	**.62**
11. Math is boring.	.28	**.47**	.30	**.40**
20. I am not a good reader.	.07	**.49**	.05	**.45**
14. Reading is hard for me.	.05	**.47**	-.04	**.51**
1. I am smart.	.14	**.41**	.03	**.58**
24. I do not understand what I read in school.	.05	**.42**	-.01	**.53**
18. I understand everything I read.	.24	**.33**	.19	**.43**
10. Reading is easy for me.	.30	**.31**	.12	**.41**
26. I can figure out most math problems.	.14	**.37**	.09	**.53**
8. School is easy for me.	.13	**.35**	.07	**.46**
5. In school, I learn new things fast.	.27	**.31**	**.33**	.26

[a] Factor structure was obtained using Promax rotation.

[b]*Loadings* show the extent to which an item addresses the construct (maximum = 1.0). Loadings in bold type show the largest value for the item.

among students than others. In the interest of finding differences between project and control groups, this suggested that we should limit our analyses to those items that discriminated among the students the most.

For the purpose of identifying the subset of high-loading items that distinguished among groups enough to potentially show differences, we conducted Item Response Theory (IRT) analyses. IRT is a method of scaling scores that takes into account student ranks, the difficulty of items (or, in the case of attitude scales, the degree to which responses are positive or negative), and the extent to which items discriminate among students. IRT analyses should be conducted with unidimensional scales; therefore, we analyzed the results for the first of the two factors (i.e., school attitudes) that

were identified in the factor analysis of the Attitude Survey scores. We chose this factor because it accounted for the most variation in the item scores and because it addressed items that targeted the key project goals. Furthermore, IRT analyses should be done only with large numbers of respondents (at least 500 and preferably more); therefore, we combined the raw scores for all of Grades 3–5 ($N = 728$) when conducting IRT analyses of the Student Attitude Survey.

When analyzing the IRT results, we looked for the markedly largest item discrimination index results (the a parameter in IRT). We sought to find the cut point that clearly differentiated between items that discriminated among students well and those that did not. The results for all grades combined showed a parameter results > 3.0 on the five highest-loading items in the factor analysis (Items 22, 2, 13, 17 and 4, shown in Table C-1). The five items all address general attitudes toward school. Items about reading and mathematics do not discriminate well. The five items were also shown to discriminate more than the others when we conducted IRT analyses separately for Year 2, Grade 4 students and Year 3, Grade 5 students.

Thus, the IRT analysis showed that the items measuring a general-attitudes-toward-school discriminated among students the most. In our presentation of the AFWRP results for Year 3, we have chosen to limit our analyses to an examination of the differences in student total scores for this subscale. Coefficient alpha for the five items for Grade 3 was not ideal, however (alpha = .50); and for Grades 4 and 5, it was acceptable (alpha = .78 and .77, respectively).

School Attitude Survey

Instructions: For each statement below, please *fill in one number* that best gives your opinion. If you *strongly agree* with the statement on the left, fill in 4; if you *somewhat agree* with the statement, fill in 3; if you *somewhat disagree* with the statement, fill in 2; and if you *strongly disagree* with the statement, fill in 1. Remember only fill in *one* number per line.

Please fill in circles like this: ● Not like this: ⊗⊘☒

Statement	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
1. I am smart.	④	③	②	①
2. I am glad I go to this school.	④	③	②	①
3. Reading is boring.	④	③	②	①
4. This is a good school.	④	③	②	①
5. In school, I learn new things fast.	④	③	②	①
6. Math is hard for me.	④	③	②	①
7. Reading is fun.	④	③	②	①
8. School is easy for me.	④	③	②	①
9. I don't like this school.	④	③	②	①
10. Reading is easy for me.	④	③	②	①
11. Math is boring.	④	③	②	①
12. If I try, I can get good grades.	④	③	②	①
13. I like being at school.	④	③	②	①
14. Reading is hard for me.	④	③	②	①
15. I am not good at math.	④	③	②	①
16. I am not good at learning new things.	④	③	②	①

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Statement	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
17. I like to learn at school.	④	③	②	①
18. I understand everything I read.	④	③	②	①
19. I do not understand math.	④	③	②	①
20. I am not a good reader.	④	③	②	①
21. Math is easy for me.	④	③	②	①
22. School is fun.	④	③	②	①
23. Math is fun.	④	③	②	①
24. I do not understand what I read in school.	④	③	②	①
25. I don't like to come to school.	④	③	②	①
26. I can figure out most math problems.	④	③	②	①

–Thank you for your time–

References

McCoach, D. B., & Siegle, D. (2003). The school attitude assessment survey–revised: A new instrument to identify academically able students who underachieve. *Educational and Psychological Measurement, 63*, 414–429.

APPENDIX D

Student Interest-in-the-Arts Questionnaire: Development and Validity Studies

Student Interest-in-the-Arts Questionnaire: Development and Validity Studies

The present document gives a thorough description of the development of the instrument and of the validity studies of data collected with the instrument. The instrument is shown in the final pages of the document. The analysis of the student results obtained from this instrument for year three were analyzed based on the results of our validity studies explained here.

Instrument Development

Initial Development

Project staff prepared items addressing each of the arts forms (seven items for each of drama and dance and six for each of music, drawing/painting, and sculpture/ceramics). The items asked about how much the students liked to experience the art form, participate in the art form, talk about the art form, and learn about the art form; whether they take lessons on the art form outside of school; and how happy the art form makes them. We used a three-point scale in which the student circled a face with a corresponding feeling ("enjoy," "neutral," and "dislike"). For pilot-testing, we administered the questionnaire to nine third-grade University Laboratory School (ULS) students and examined the results for reliability and discrimination. Based on the results, the items were revised somewhat and changed to a 4-point Likert scale ("strongly agree," "somewhat agree," "somewhat disagree," and "strongly agree"). The responses also allow a option for "Don't know." A follow-up pilot test was conducted on eight third-grade ELS students and additional analyses were conducted. The visual arts section initially was expanded to address both painting/drawing and sculpture/ceramics, but we eliminated the items about sculpture and ceramics after learning that the schools did not teach or have access to the equipment needed for those arts. Finally, we administered the instrument to 94 project school third-grade students in April of School Year 2003–2004 and made revisions.

Validity Analyses

We used the data collected during the project to conduct validity studies, including analyses addressing content validity and analyses addressing construct validity.

Content-Related Validity

Content validity is demonstrated in part by showing that the items of an instrument adequately address the intended content. Our description of the development of the instrument above shows the procedures for developing the Interest-in-the-Arts Questionnaire. We believe that these procedures demonstrate that the instrument addresses the intended content.

Content validity is also addressed by establishing that data collected with an instrument are

reliable. We used two methods to examine reliability. The first was the test-retest method. This method yields results showing the consistency of responses to an instrument on two occasions. We administered the instrument twice in the spring of 2005 to 37 ULS students in Grades 2–5, with the weekend between administrations. The correlation between total scores for the two occasions was .93, suggesting high test-retest reliability. We also conducted a generalizability theory analysis, in which we examined the variation due to students, items, and occasions. This analysis showed that none of the variance was due to occasion, again suggesting high test-retest reliability. In addition, we calculated the coefficient alpha for the data we collected from the project students in the Fall of 2004 and the Spring of 2005; it was .90 for the Fall pretest and .87 for the Spring posttest. All these analyses support of the validity of the data collected with the instrument.

Construct Validity

The second aspect of validity that we addressed had to do with the extent to which our instrument reflects the constructs that they are intended to address—that is, construct validity. We conducted factor analyses (using SAS PROC FACTOR with the promax rotation method) in Year 2 of the project to see the extent to which data collected with the instrument could be grouped empirically into the four art forms ($N = 514$). The results, as seen in Table D-1, clearly show a factor for each of the four arts forms, strongly supporting the conclusion that the instrument has construct validity.

Further Revisions

Students who responded to the Interest in the Arts Questionnaire tended to report high levels of interest, resulting in little variation among student scores. We conducted Item Response Theory (IRT) analyses to identify the items that accounted for most of the variation among the scores. By identifying these items and comparing project and treatment groups on the mean total scores for the items, we hoped to have data more well-suited for our study.

We conducted an IRT analysis for each of the four factors and with all students who completed the instrument in either the Fall or Spring of 2005 and 2006 ($N = 996$). We examined the results on the IRT discrimination parameter (a) and found that for each of the four factors, the three items measuring how much they liked to do the art form, how much they liked to learn about the art form, and how happy the art form made them discriminated the most among students. To check grade level differences, we ran two additional IRT analyses for only the students who took both pre and post questionnaires in Year 2 (Grade 4 students, $N = 238$) and Year 3 (Grade 5 students, $N = 250$). The results of these two analyses showed the same three items discriminated the best for the four art forms, supporting the initial IRT analysis. This remarkable degree of consistency left us confident that the total scores for these three items for each of the arts forms were the appropriate

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Table D-1

Factor Loadings for the Student Interest in the Arts Questionnaire[a], Spring 2005

Item	Factor loadings[b]			
	Drama	Dance	Music	Visual arts
5. I like learning how to act in, or write, plays.	**0.7713**	0.4281	0.3574	0.2622
6. I take (or want to take) acting lessons outside of school.	**0.7144**	0.4197	0.2843	0.3054
7. Acting in or writing plays makes me happy.	**0.7089**	0.4393	0.3623	0.3418
3. I like to help write plays.	**0.6931**	0.3010	0.2501	0.3086
2. I like to act in plays.	**0.6828**	0.4167	0.3515	0.2528
4. I like talking about plays.	**0.6550**	0.2313	0.3254	0.3662
1. I like to watch plays.	**0.6360**	0.2445	0.1670	0.2867
9. I like to dance.	0.2857	**0.8451**	0.3982	0.2183
12. I like learning about dancing and how to dance.	0.4315	**0.8278**	0.3842	0.2422
14. Dancing makes me happy.	0.3977	**0.8266**	0.4934	0.3086
13. I take (or want to take) dance lessons outside of school.	0.4908	**0.7743**	0.3607	0.2845
10. I like to make up dances.	0.3656	**0.7492**	0.3323	0.2645
8. I like to watch dancing.	0.3103	**0.7039**	0.3676	0.2617
11. I like talking about dancing.	0.4850	**0.6976**	0.4329	0.3257
16. I like to play music or sing.	0.3494	0.4485	**0.7961**	0.2506
2. Listening to music, playing music, or singing makes me happy.	0.3205	0.4194	**0.7536**	0.3940
17. I like talking about music or singing.	0.4310	0.3103	**0.7322**	0.3142
18. I like learning about music or learning to play music or singing.	0.4590	0.4467	**0.7276**	0.2537
19. I take (or want to take) music lessons outside of school.	0.5361	0.3304	**0.5951**	0.3227
15. I like to listen to music.	-0.071	0.2061	**0.5468**	0.2004
26. Drawing or painting makes me happy.	0.3413	0.3232	0.3082	**0.8037**
24. I like learning about drawing or painting.	0.3810	0.1738	0.3106	**0.7734**
22. I like to draw or paint.	0.1825	0.2824	0.2843	**0.7614**
21. I like to look at drawings or paintings.	0.3157	0.2768	0.2958	**0.7483**
23. I like talking about drawing or painting.	0.5031	0.2359	0.3433	**0.7149**
25. I take (or want to take) drawing or painting lessons outside of school.	0.4124	0.2939	0.3256	**0.7085**

[a] Factor structure was obtained using Promax rotation. *Loadings* show the extent to which an item addresses the construct (maximum = 1.0).

[b] Loadings in bold type represent the largest value for the item.

indicators to use when examining project-control differences in student interest in the arts. Coefficient alpha for the three items .76 for the music items, .81 for the visual arts items, .82 for the drama items, and .86 for the dance items, thus demonstrating high internal consistency.

Student Interest-in-the-Arts Questionnaire

Instructions: For each statement below, please *fill in one number* that best gives your opinion. If you *strongly agree* with the statement on the left, fill in ④; if you *somewhat agree* with the statement, fill in ③; if you *somewhat disagree* with the statement, fill in ②; and if you *strongly disagree* with the statement, fill in ①. Remember only fill in *one* number per line.

Please fill in circles like this: ● Not like this: ⊗ ✓

Statement	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
1. I like to watch plays.	④	③	②	①
2. I like to act in plays.	④	③	②	①
3. I like to help write plays.	④	③	②	①
4. I like talking about plays.	④	③	②	①
5. I like learning how to act in, or write, plays.	④	③	②	①
6. I take (or want to take) acting lessons outside of school.	④	③	②	①
7. Acting in or writing plays makes me happy.	④	③	②	①
8. I like to watch dancing.	④	③	②	①
9. I like to dance.	④	③	②	①
10. I like to make up dances.	④	③	②	①
11. I like talking about dancing.	④	③	②	①
12. I like learning about dancing and how to dance.	④	③	②	①
13. I take (or want to take) dance lessons outside of school.	④	③	②	①

Statement	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree
14. Dancing makes me happy.	④	③	②	①
15. I like to listen to music.	④	③	②	①
16. I like to play music or sing.	④	③	②	①
17. I like talking about music or singing.	④	③	②	①
18. I like learning about music or learning to play music or singing.	④	③	②	①
19. I take (or want to take) music lessons outside of school.	④	③	②	①
20. Listening to music, playing music, or singing makes me happy.	④	③	②	①
21. I like to look at drawings or paintings.	④	③	②	①
22. I like to draw or paint.	④	③	②	①
23. I like talking about drawing or painting.	④	③	②	①
24. I like learning about drawing or painting.	④	③	②	①
25. I take (or want to take) drawing or painting lessons outside of school.	④	③	②	①
26. Drawing or painting makes me happy.	④	③	②	①

–Thank you for your time–

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APPENDIX E
Weekly Teacher Log

Weekly Teacher Log
ARTS FIRST Windward Research Project
School Year 2005-06

Week Ending May 12, 2006

Teacher Name:

Grade: ○ 4 ○ 5

Indicate the number of times, if any, that you used each Observing strategy application during the past week.

_____

OBSERVING

_____

Drama

Magic Box 0 ▼

Visualization 0 ▼

Finding the Main Idea 0 ▼

_____

Dance/Music

Mirrors 0 ▼

What Do You Hear? 0 ▼

What Am I? 0 ▼

Ali Baba 0 ▼

Symmetry 0 ▼

Talk and Tap 0 ▼

Visual Arts

Brown Bag Doodle [0 ▼]

Brown Bag Mystery [0 ▼]

I Spy [0 ▼]

Memory Game [0 ▼]

Scape Escape [0 ▼]

Gargoyles Galore [0 ▼]

Zoom Journey [0 ▼]

Illustrating Text [0 ▼]

We Spy [0 ▼]

Click the submit button below when you are finished with logging your use of the Observing strategies. After clicking the submit button, it may take a couple of seconds for the Patterning page to appear.

[Submit]

Weekly Teacher Log
(Continued)

Indicate the number of times, if any, that you used each Patterning strategy application during the past week.

PATTERNING

Drama

Domino `0`

Machines `0`

Story Design `0`

Story of Numbers `0`

Sequence of Events `0`

What Happens Next? `0`

Dance/Music

Echo `0`

I Move, You Move `0`

Rhythm Patterns `0`

Visual Arts

Border Designs `0`

Pattern Picks `0`

Railroad Tracks `0`

*Railroad Poles `0`

*Railroad Trees `0` ▼

Geometric Borders `0` ▼

Grid Designs `0` ▼

Railroad Tracks Assessment `0` ▼

Click the submit button below when you are finished with logging your use of the Patterning strategies. After clicking the submit button, it may take a couple of seconds for the Representing page to appear.

Submit

Weekly Teacher Log
(Continued)

Indicate the number of times, if any, that you used each Representing strategy application during the past week.

REPRESENTING

Drama

Frozen Dominos `0`

When we are a story `0`

Character Mirrors `0`

Environmental Journey `0`

Crow Boy `0`

Text Connections `0`

Dance/Music

Pele Dance `0`

Imagery Dances `0`

ABA Form in Music `0`

Dimension Dances `0`

Geometry with Stretchies `0`

What's my vocabulary word? `0`

Visual Arts

Peace Quilt `0`

Expression Lines [0 ▼]

Melodic Quick Draw [0 ▼]

Idiom Illustration [0 ▼]

Shape Transformation [0 ▼]

Kandinsky Angels [0 ▼]

Teacher Comments:
Please provide any comments that you have about your use of the ARTS FIRST strategy applications this past week. This may include reasons for not using the strategies, challenges you encountered, or effects you observed.

Click the submit button below when you are finished with the log. After clicking the submit button, it may take a couple of seconds for the confirmation page to appear.

[Submit]

APPENDIX F

Development of the Method for Judging Teacher Quality

Development of the Method for Judging Teacher Quality

The purpose of this section is to provide details about the development and results for assessing teacher quality used in the AFRWP. The conclusions made about teacher quality were based on the results of this study.

Videotaping the Teachers

The first step in the teacher observations was to videotape the 12 teachers implementing the arts activities that they had been taught during the project. We chose to use videos for rating the teachers instead of rating them live in the classroom because videos allow for judges' multiple reviews of the teachers and thereby increase the likelihood of having nuanced ratings. The teachers were told that the videotapes would be used to assess of the quality of their teaching using the arts. We reminded the teachers that the videos would not be used for the purpose of evaluating them as teachers but rather to examine the extent to which the project had properly trained them in how to use the arts activities.

During the videotaping, the participating teachers worked with their artist mentors on activities within art forms of their choice. Of the 12 teachers, five chose a drama activity, three chose a dance activity, and four chose a visual arts activity. Over the course of the semester, the mentors guided the teachers through three stages of mastery: First, each teacher observed his or her mentor conducting the activity in the teacher's classroom. Second, the teacher and mentor co-taught the activity. Finally, the mentor observed the teacher conducting the activity (the "solo" session). Each of these sessions were video-taped to allow the teachers and students to adjust to being taped. After teachers finished their solos, their final taping (the "super-solo") was scheduled. The super-solo was taped without the presence of an artist mentor. These videotapes were used for the final assessment of the teachers' quality.

Developing Quality Rating Criteria

The second step in the process was to develop criteria for rating the quality of the use of arts activities in teaching reading and mathematics. The criteria were aspects of integrating the arts that the teachers had learned and practiced in the project PD. The goal of this step was to have a list of criteria, with definitions, that judges would use for judging quality in a later step of the process.

The step began by working with a list of the aspects of quality that had been discussed in the PD. All the artist mentors had participated with the project manager and an external consultant in developing the PD over the three years of the project. This team made many changes in the

methods and emphases of the PD over the course of the three years (Lawton & Brandon , 2006); by the third year, the team had arrived at a list of characteristics of good integration and use of the arts. The evaluators reviewed the list with the project manager and confirmed that she continued to consider them essential to good arts integration. The project manager added another list of criteria that she had developed over the years. The evaluation team combined the two lists into one, resulting in a document showing 29 criteria in three categories: content, planning and organization, and delivery.

Next, the combined list, which obviously was too extensive to use for rating quality in a reasonable period of time, was reviewed in a meeting of the project participants. The evaluators convened a six-hour meeting of the project manager, three of the artist mentors, a university arts-education teacher trainer, a laboratory high school fiber artist/arts educator (who was affiliated with the evaluators' organization and had served as an observer during the three years of the project), a university lecturer with previous experience as a K–12 classroom teacher, and the authors of this paper. Of the artist mentors, one was a drama expert and two were visual arts experts. The project manager was a dance expert, and the teacher trainer was a drama expert. The goals of the meeting were to prepare definitions of each criterion, discuss instances of when the criteria are seen in the classroom, and identify the most essential criteria. Each criterion in the final list had to apply to all the art forms. They had to be clear enough to judge quality reliably, and the list had to be short enough to make the judgments manageable.

The participants engaged in an extensive discussion about each criterion. The first author of this paper served as the meeting facilitator. The second author, who was the evaluation project manager, the hands-on formative project evaluator, and a classroom observer and videographer for the length of the project, participated extensively, contributing his knowledge of the criteria and how they were manifested in the classroom. As the meeting proceeded, some criteria and examples were revised, some were deleted, and some were combined. The meeting resulted in a list of 10 criteria, with examples of each.

After the meeting, the evaluators reviewed the list and identified redundancies and unclear portions of the criteria. With the concurrence of the project manager, they eventually narrowed the list of criteria to seven. The criteria are shown at the end of this appendix (the eighth criterion was added during the judge training).

Selecting and Training the Judges

The third step in the process was selecting and training judges. The arts education project manager, two of the project's five artist mentors (a dance expert and a visual arts expert), the laboratory school fiber artist/arts educator, and the university arts-education teacher trainer

participated as judges. (The other three artist mentors were unavailable.) The university lecturer with previous experience as a K–12 classroom teacher and the second author, both of whom had helped develop the criteria, sat in on the training for the purpose of trying out the role of judge, engaging in the discussion, and providing feedback about how the rating process might be improved.

A judge training workshop was prepared and conducted. The plans called for (a) reviewing the quality criteria, (b) conducting one round of group practice and discussion of the application of the criteria, and (c) conducting as many as two more individual rounds of practice, each to be followed by discussion. The evaluators selected three of the participating project teachers' solo videotapes. The videotapes were transferred to DVD-ROMs for training the judges. The evaluators then prepared a rating form that instructed the judges to rate the teachers on the videotapes on a 1–4 scale (with half-points allowed) for each teaching quality criterion. It was decided not to label anchor points with extended rubric descriptors; instead, *1* = no acceptable quality, *2* = acceptable quality, *3* = good quality, and *4* = excellent quality. The anchor descriptors were weighted toward good quality rather than inadequate quality to allow more variation in the ratings of the observed teachers, each of whom had practiced using the activities during the final year of the project and were thought to have mastered the activities fairly well. The first page of the rating form, giving the instructions and the section for rating the first of the criteria, is also shown at the end of this document.

The workshop was convened for a period of about six hours. The first author served as the facilitator. After introducing the workshop purpose and agenda, the evaluators reviewed the criteria and explained that they had been slightly revised since their initial development. The group then began viewing a sample DVD-ROM on a computer projector and immediately engaged in an extensive discussion about the meaning of the criteria, when the criteria were applicable, and the level of quality being exhibited on the video. The discussion about the video continued for almost two hours.

At the conclusion of viewing the sample classroom video, each judge privately rated the teacher on each of the seven criteria and also did an overall assessment. The facilitator then recorded the results on a flip chart, and the group reviewed and discussed the results, shown here as Table F-1. As seen in the table, all the judges except Nos. 6 and 7, who were the evaluation project manager and the university lecturer with previous classroom teaching experience, were within one-half point of each other. The participants agreed that the criteria on which their

Table F-1
Rating of the First Training DVD-ROM[a]

Criterion	Judge						
	1	2	3	4	5	6	7
1	3	3	3.5	3	4	4	4
2	2.5	3	2.5	3	3	3	3.5
3	2.5	3	2.5	2.5	3	3	4
4	3	3.5	2.5	2	2	3	3.5
5	3	3	2	2	2.5	3	4
6	2.5	4	3	2.5	2.5	3	4
7	2.5	2.5	2.5	3	3	4	3.5
Overall	2.5	3	2.5	2.5	2.5	3	3.5

[a]Judges 6 and 7, the evaluation project manager, who served as the formative evaluator, and the university lecturer with experience as a classroom teacher, were not trained artist mentors.

ratings diverged the most tended to be the more difficult to apply. They also decided to add the overall assessment as the eighth criterion.

The next step was to have been an individual viewing of a second videotape without discussion or interruption. However, the evaluators and the group agreed that more discussion might be in order as the viewing proceeded. The evaluators showed a second DVD-ROM, and the judges viewed it and took notes. Compared to the first viewing, little discussion ensued until after the viewing was completed. When asked for their independent ratings of the second video, the results shown in Table F-2 were collected. (The university lecturer and the second author did not participate in this round of ratings.) As seen in this table, the ratings were more similar this round than the previous. Although the increased similarity in the second round probably was caused in part by the low quality of the implementation of the arts activity by the teacher shown in the viewed DVD (resulting in a floor effect), the results were deemed sufficiently close to end the training.

The final step of the process was for the artist mentors attending the training to weight the criteria. As experts in the project, they were an appropriate group to decide the weights of each

Table F-2
Rating of the second training DVD-ROM

Criterion	Judge				
	1	2	3	4	5
1	1.5	1.5	1.5	1	1.5
2	1.5	1	1.5	1	1
3	2	1.5	1	2	1
4	1.5	1.5	1.5	1.5	1.5
5	1	1	1	1	1
6	—	—	—	—	—
7	1.5	1.5	1	1	1
8	1	1	1	1	1

criterion. Each of the four artist mentors assigned a weight to each criterion. However, the weights were not used in the analysis because the unweighted and weighted results did not vary considerably.

At the end of the meeting, the five judges were given a DVD-ROM for each of the 12 third-year project teachers whose arts-integration quality was to be rated. They were asked to complete their ratings at the places of their choosing within four weeks. They were instructed not to discuss any of their work with each other. Finally, they were asked to take extensive notes about the extent to which the teachers addressed the quality criteria and provide written statements justifying their final ratings on each criterion. We initially planned to content analyze the written justifications; however, after review, we decided that the instructions about wanting notes then a final summary justification were unclear, therefore, we decided to only use the ratings.

After the ratings were completed, we conducted a post-rating focus group, in which we asked the judges for their feedback about the process.

The Quality of the Study of Quality

Interrater Reliability

The primary purposes of this paper are to report and reflect on our methods and their

implications for the quality of the quality judgments. Essentially, this is about the validity of the ratings and of the inferences that we can make from them. Our first step was to examine interrater reliability. Reliability is a key aspect of validity; before we know whether we can proceed to use the quality ratings to report the level of implementation, we need to know about the consensus and consistency of the ratings (Stemler, 2004).

Results are reported here for only four of the judges. Early in the course of our analyses, we discovered that the ratings of the fiber artist/arts educator, who we thought might be an appropriate person to be a judge because she had served as an observer during the three years of the project, correlated very poorly with the other judges' ratings. Therefore, we eliminated her results from further analyses.

Consensus estimates. Consensus is about the extent to which judges agree on the ratings. It reflects the extent to which judges' interpretation of the level of quality is the same. Our measure of consensus was the average difference within each of the pairs of judges ($N(N-1)/2 = $ six pairs). For each criterion, we calculated the absolute value of the difference between the two judges' ratings (in a pair) for each teacher and averaged these differences, resulting in an average difference value for each pair on each criterion. We also calculated the mean difference across criteria for each judge pair. The results, given in Table F-3, show that the mean differences ranged among the criteria from .04 to 1.13. The smallest mean difference across criteria was between Judges 1 and 4 (.54). This value was about 20% less than the next lowest average (.64 for Judges 2 and 4). Thus, Judges 1 and 4 agreed with each other more than the other judges. The average difference for this pair of judges was about ½ point, which was the largest difference between judges that we hoped to find in the study. In contrast, the average across all judge pairs was .70.

Consistency estimates. Consistency estimates address the extent to which the judges in our study consistently applied the criteria when judging the quality of teachers' implementation of arts activities in their reading or mathematics instruction. To examine consistency, we (a) correlated the four judges' ratings for each of the 12 teachers and (b) calculated coefficient alphas, resulting in 12 correlation matrixes, with an alpha coefficient for each. The purposes of this step were to examine the correlations among judges and to determine the extent to which the criteria ratings could be analyzed as one scale.

The Pearson correlations among the judges are shown in Table F-4. They partially confirm the findings of the percent agreements and the average differences: The correlations of Judges 1 and 4 (mean = .61) are not the highest, but they are nearly the highest (at .65, the mean correlation between Judges 2 and 4 is slightly greater).

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Table F-3
Mean Differences in Ratings (Across All Rated Teachers) Within Pairs of Judges for Each of the Eight Quality Criteria

Criterion	J1-J2	J1-J3	J1-J4	J2-J3	J2-J4	J3-J4	All
1	.92	.71	.42	.63	.67	.79	.69
2	.50	.58	.63	.67	.38	.71	.58
3	.75	.79	.58	.79	.58	1.04	.76
4	.33	.67	.63	.50	.71	1.13	.66
5	.88	1.08	.50	.88	.79	1.08	.87
6	.71	.96	.54	.67	.58	1.00	.74
7	.63	.71	.67	.67	.79	1.21	.78
8	.67	.58	.33	.50	.58	.75	.57
Mean	.67	.76	.54	.66	.64	.96	.70

Table F-4
Correlations Among Judges on Each of the Eight Quality Criteria

Criterion	J1 & J2	J1 & J3	J1 & J4	J2 & J3	J2 & J4	J3 & J4	All
1	.70	.50	.87	.58	.58	.24	.58
2	.45	.44	.54	-.05	.71	.14	.67
3	.54	.28	.58	.31	.68	-.04	.54
4	.76	.66	.50	.75	.58	.30	.63
5	.37	.43	.42	.07	.43	.06	.49
6	.59	.25	.67	.53	.81	.30	.53
7	.44	.52	.55	.38	.75	.20	.57
8	.46	.49	.73	.46	.65	.21	.69
Mean	.54	.45	.61	.38	.65	.18	.59

Of the alpha coefficients (one calculated for the results for each of the 12 teachers), five were greater than .90, three were from .80 to .89, two were from .70 to .79, and two were below .70. We concluded that we were justified in considering the criteria as one scale.

Kendall's coefficient of concordance (*W*) is another measure of consistency. For the four judges' Overall Quality Scores for the 12 teachers, *W* = .60. (See Table F-5.) Howell (1992) suggested translating *W* into Spearman's rho, because the latter is more interpretable. We found that Spearman's rho = .49, a moderate correlation. For an Overall Quality Score consisting of the average for Judges 1 and 4 only, *W* = .89, and Spearman's rho = .78—a considerable improvement over the results for all four judges combined. The Judge 2/4 combination showed the second best results.

The final consistency analysis that we conducted was to calculate the intraclass correlation

Table F-5
Kendall's Coefficient of Concordance (W) and Interclass Correlation Coefficients on the Overall Quality Scores, for Pairs of Judges

Statistic	J1 & J2	J1 & J3	J1 & J4	J2 & J3	J2 & J4	J3 & J4	All
Kendall's *W*	.74	.71	.89	.62	.88	.60	.60
W translated to Spearman's rho	.48	.42	.78	.24	.76	.20	.49
Intraclass correlation coefficient	.48	.33	.67	.47	.58	.03	.45

coefficient (ICC), Model 2 (Shrout & Fleiss, 1979). The ICC is a measure of association among judges that takes into consideration the proportion of variance that judges have in common. According to Barrett (2001), Fleiss (1981) and Cicchetti and Sparrrow (1981) interpret the ICC that we found across all judges, .45, as indicating a "fair" level of reliability. For the pair of Judges 1 and 4, the ICC = .67, showing a fairly high proportion of variance that the two judges have in common and thus indicating a good level of agreement. Again, the Judge 2/4 combination showed the second best results.

Content-Related Validity

The content aspect of validity addresses "content relevance, representativeness, and technical quality" (Messick, 1995, p. 745). In addition to the reliability results, which show technical quality, evidence for the content aspect of validity is found in our description, earlier in the

paper, of (a) our methods for developing the quality criteria, (b) the procedures for developing and implementing judge training, and (c) the manner in which the ratings were conducted. We believe that this evidence shows content validity, although the judges' feedback at the conclusion of the workshop qualified the strength of the evidence somewhat. The judges tended to find that Criteria 4 and 5 overlapped, suggesting either that the two criteria should have been combined or that the training should have been more explicit. They also tended to agree that the training should have been longer. For example, it was suggested that the judges rate one or two videos on their own immediately after the initial training and then, on a day soon after, reconvene to discuss the results.

Criterion-Related Validity

As a measure of validity, we correlated the Overall Quality Scores with results from data collected with our student and teacher outcome measures for the final year of the project. These included student attitudes towards school, student interest in the arts, and teacher attitudes toward teaching with the arts. We did not correlate the results with student achievement because we interpreted the between-group differences in achievement scores to be due in large part to reading programs that had been used at the project schools. We did not find any statistically significant results with either the results for the entire set of four quality judges or with the pair of Judges 1 and 4. The highest correlation that we found was .32, which was between the average rating for Judges 1 and 4 and teachers attitudes after partialling out teachers' attitudes at the beginning of the year. We believe that this provides some evidence of the validity of the Overall Quality Scores.

Overall Summary and Conclusions

Results of the validity and reliability analyses. The primary results of the validity and reliability analyses that we have reported here are as follows:

1) We found early in the analyses that the ratings of the fiber artist, who had observed and recorded all the PD sessions, did not correlate highly with the results for the other judges. This might have been due to her lack of experience integrating the arts into elementary school reading and mathematics. Therefore, we removed her results from further analyses, which was disappointing because we had endeavored to have as large a pool of judges as possible.

2) The average difference among the judges' ratings was .70, which was greater than desirable. Among one pair of judges (1 and 4), however, the results were on target. Furthermore, the correlation between this pair of judges was the second greatest of all pair of judges and only slightly lower than the correlation for another pair (judges 2 and 4).

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3) Kendall's *W* and the ICC showed disappointing results for the group of four judges analyzed together. However, for the Judge 1/Judge4 pair and the Judge 2/Judge 4, pair, Kendall's *W* and the ICC were quite satisfactory. The three judges in these two pairs were the project manager and two of the participating artist mentors; one of the other two judges was the teacher trainer who had experience in integrating the arts but who did not participate in the project.

4) The correlation of the quality ratings with the results on the student outcome measures suggested virtually no relationship between implementation and outcomes in our study. There was no correlation between teacher attitudes toward teaching with the arts and the results for all four judges, but there was a small correlation for Judges 1 and 4.

Some tentative conclusions about the study. The reliability and validity findings lead us to several tentative conclusions:

1) The disappointing consensus results for the group of four judges suggests that the criteria were not sufficiently well defined or that there might have been insufficient consensus about levels of quality (i.e., acceptable, good, and so forth).

2) Although it is desirable to have several judges, it is possible to identify subgroups of judges whose results are acceptable when the results for the entire group are not. The possibility that not all judges' results will prove psychometrically adequate underscores the need to enlist a pool of several judges.

3) Only experts in the project should participate as judges. We were not entirely surprised that two pair of judges proved superior to the others, because they consisted of full participants in the project, whereas one of the other judges was not a project participant. The fourth judge was a participant, however, underscoring the need to have a number of judges participate so that an acceptable subgroup can be identified.

4) Training in how to rate the quality of the arts education project probably should be of an open-ended length, ending after consistency and consensus are established in multiple instances. Issues about the feasibility of having longer training would have to be addressed if training were lengthened.

5) When conducting practice sessions during the training, judges probably should be asked to privately record and report their ratings. We chose to have judges report their ratings to the group aloud; some might have changed their ratings to accommodate their peers' opinions. If the judges had reported their ratings privately, it is likely that problems with lack of consensus could have been identified and addressed during the training.

6) Training might be improved if videotaped segments showing levels of implementation on

each of the criteria were used to calibrate the teachers.

7) Judges probably need to be instructed explicitly that it is their obligation to come as close to consensus as possible during the training. Using only personnel who participate in a project probably would facilitate this process, because they are more likely than outsiders to have established group cohesion.

8) Evaluators should not necessarily expect relationships between the quality of implementation and student outcomes. In our case, there are several possible rationales for this conclusion. First, our student attitude and interest measures tended to show a ceiling effect. Perhaps a lack of variation in student outcomes made it difficult for other variables to show correlations with the outcome data. Second, the data we collected from our teacher logs suggested that the teachers used the arts strategies infrequently. The effect of quality of implementation is likely to be minimal if the frequency of implementation is minimal. Third, the relationship between quality and implementation might not be strong enough to show a relationship with outcomes under the best of circumstances. To what extent can we expect variations in levels of quality among high-quality teachers to show a statistical relationship with variation among other data?

9) The judges found that the process of the study was a useful formative evaluation task. The development and use of the criteria occurred at a time in the evolution of the theory and methods of the project when the integration model and its manifestation in the PD and in the classroom had substantially jelled. The systematic process of conducting the ratings provided the project manager and the artist mentors with deeper insights into the quality of the implementation of the arts activities than they had had previously, despite having worked closely with the teachers in the institutes and in the classroom. The project personnel had trained the teachers with criteria in mind, but they had not systematically identified, defined, and described a short and explicit list of quality criteria before the PD and trained the teachers in the criteria. The project manager informed us that they would explicitly address the criteria in future training.

Future studies. In addition to considering these conclusions, future studies of how to measure quality might also take these additional steps:

1) The differences among criteria might be more closely examined to determine whether some criteria need revision. For example, the standard deviations (which we calculated but did not report here) of criterion ratings might be examined for consistency among judges.

2) Discriminant validity results might be obtained and examined. For example, the artist mentors' overall assessments of the quality of the teachers might be collected and compared

with the quality ratings. (Of course, if the mentors' assessments and the quality ratings show a strong correlation, the conclusion might be to use the mentors' assessments to judge quality because they will be much cheaper to obtain!)

3) Teachers' general teaching quality needs to be assessed at the beginning of studies so that it can be partialled out of their quality ratings.

4) The appropriateness and adequacy of assigning teachers a simple three-level categorical implementation score (low, medium, and high) should be explored. Perhaps implementation scores are not sufficiently accurate and sensitive to serve as interval-level predictors of achievement, or perhaps teachers need only reach a minimal level of proficiency to be effective.

5) Generalizability coefficients should be calculated as another measure of reliability.

6) Multi-level analyses, which can tease out the relationship between teacher-level results and student-level results, might be conducted of the relationship between quality and student outcomes.

ARTS FIRST Windward Research Project
Quality Criteria Statements and Examples

No.	Criterion	*The teacher. . .*
1	Provision for an appropriate **physical environment**	. . .prepares the classroom layout and supplies, materials, and equipment in a manner that facilitates the lesson.
2	Maintenance of the **students' focus** on the activity	. . .divides his or her attention among students appropriately. . . .gets students on task quickly and keeps them on task. . . .structures effective grouping and collaboration. . . .manages the energy level of the students.
3	Establishment and maintenance of a clear **progression** of the lesson	. . .asks questions and provides articulate instructions. . . .presents the appropriate sequencing. . . .provides smooth transitions between activities. . . .manages the pacing of the activities.
4	Facilitation of students' **reflection**	. . . provides opportunities for the students to (a) *describe* ("tell what you see"), *interpret* ("tell what you imagine is happening"), and *evaluate* ("tell what you like most and why"). . . .provides timely feedback. . . .asks questions to assess the students' understanding. . . .suggests possible improvements.
5	Fostering of students' **creative expression**	. . .facilitates brainstorming. . . .asks open-ended questions. . . .accepts students' choices. . . .encourages risk-taking and experimentation. . . .projects an open, relaxed attitude.
6	Allocation of the necessary **time** to the three artistic processes	. . .allocates the appropriate time to *creating* (students generate art; this includes problem solving, decision-making and exploration); *performing* (students share their art); and *responding* (students reflect on products and process).
7	**Use of the arts strategies to teach subject matter**	. . .facilitates understanding in various stages: (a) introducing the strategy; (b) reviewing understanding; (c) adding a technique. . . .makes a clear connection between the arts strategies and the arts benchmark.
8	**Global assessment** (rater's summarization of overall teacher quality)	

ARTS FIRST Windward Research Project
Teacher Quality Criteria Rating Form

Instructions**:** The purpose of this form is to rate each of the 12 Windward Research Project teachers *no later than* Wednesday, February 21, 2007. Rate the teachers on each criterion with 1 = *not acceptable quality*, 2 = *acceptable quality*, 3 = *good quality*, and 4 = *excellent quality*. Enter your rating into the appropriate column. Do your best to use only these numbers; however, you may give a rating of 1.5 if you think that the quality shown on the criterion was above *not acceptable* but below *acceptable*, a rating of 2.5 if you think that the quality shown on the criterion is above *acceptable* but below *good*, or a rating of 3.5 if you think the quality was above *good* but below *excellent*.

It is essential that you record your evidence of particular behaviors and events, including time stamps, in the Notes column that influenced your rating. In addition, please provide a final statement that justifies/summarizes your final rating. If you need more room than is provided please attach a separate sheet of paper indicating criteria, teacher name, and your name.

Your name: _____   Teacher name: _____

Criterion	Rating (1-4)	Notes
1. Provision for an appropriate **physical environment**		

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APPENDIX G

Description of the Attitudes Toward Teaching with the Arts Survey

Description of the Attitudes Toward Teaching with the Arts Survey

To assess teachers attitudes toward using the arts in their classroom we used a modified version of the *Teaching With the Arts Survey (TWAS)* (Oreck, 2001). To identify the instrument, we conducted a search on Education Resources Information Center (ERIC) for instruments that were developed to assess teachers use of, and attitudes toward, the arts. We identified and selected the *Teaching with the Arts Survey* (TWAS) based on its alignment with the project goals. As identified in a validity study for the original TWAS (Oreck, 2004), we selected 18 items from the original 31-item instrument, which had loaded on the four factors that interested us the most: importance of arts, self (efficacy and image) support, and constraints. On selected items we changed the wording from "I feel it is important" to "I think it is important." A 6-point Likert scale was used for each item (*1* = "strongly disagree," to *6* = "strongly agree.").

Attitudes Toward Teaching With the Arts Survey[a]

The following survey asks for your opinions about your attitudes toward teaching with the arts. Please complete each item below by filling in *one* number, where ① = *strongly disagree* and ⑥ = *strongly agree*.

Note: Some items on the attitude survey are negatively worded, which are identified in italicized font. The technique of using negatively worded items helps to control for the unwanted effects of "response bias" (i.e., the tendency of some people to agree with most statements put to them and the tendency of others to generally disagree with any statement).

Name: _____

Item	Fill in one number, where ① = *strongly disagree* and ⑥ = *strongly agree*					
1. I think using drama when teaching helps children learn reading and mathematics.	①	②	③	④	⑤	⑥
2. I think using music when teaching helps children learn reading and mathematics.	①	②	③	④	⑤	⑥
3. I think using dance when teaching helps children learn reading and mathematics.	①	②	③	④	⑤	⑥
4. I think using visual arts when teaching helps children learn reading and mathematics.	①	②	③	④	⑤	⑥
5. I *do not* think it is important for students to view a videotape of a dance.	①	②	③	④	⑤	⑥
6. I am confident in my ability to use dance when teaching.	①	②	③	④	⑤	⑥
7. I consider myself a visual or performing artist.	①	②	③	④	⑤	⑥
8. I am concerned that music, dance, and drama activities are *too noisy or disruptive* for the classroom.	①	②	③	④	⑤	⑥
9. I feel confident in my ability to facilitate music activities.	①	②	③	④	⑤	⑥
10. I have enough space to use movement effectively in the classroom.	①	②	③	④	⑤	⑥
11. I am confident in my ability to facilitate visual arts activities.	①	②	③	④	⑤	⑥

Item	Fill in one number, where ① = strongly disagree and ⑥ = strongly agree					
12. My students *have trouble concentrating* on other work after I use the arts to teach.	①	②	③	④	⑤	⑥
13. I am confident in my ability to facilitate drama activities.	①	②	③	④	⑤	⑥
14. In general, my school is supportive of innovative teaching approaches.	①	②	③	④	⑤	⑥
15. I think there are many students in my class who would especially benefit from more arts activities in the curriculum.	①	②	③	④	⑤	⑥
16. I am free to use new teaching approaches in my classroom as I see fit.	①	②	③	④	⑤	⑥
17. I consider myself a highly creative person.	①	②	③	④	⑤	⑥
18. *I am constrained* by the demands of the curriculum I have to teach.	①	②	③	④	⑤	⑥

[a] This survey is a modified version of the *Teaching With the Arts Survey (TWAS).* (Oreck, B. (2001). *Teaching with the arts survey.* Unpublished survey instrument. Storrs, CT: University of Connecticut at Storrs.)

Thank you for your time

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APPENDIX H

End-of Year Teacher Focus Group Comments

Table H-1
Year 3 Teacher Responses During the End-of-Year Focus Groups

Effectiveness of the full-day PD institutes in teaching arts activities

- Very effective cause they gave samples. Yup. Examples, samples that's what was needed.
- And the hands-on. The hands-on actually went into the whole lesson.
- It's not a realistic time frame, you can't do it in one day. You have to do it over a period of time. That one lesson that they gave us at the PD, takes at least a week to do.
- Well, it depends on the lesson though. Cause some of them were more doable than others. And then others, umm you know, you had to adjust for the skills that your kids may or may not have.
- It was helpful to go practice it once at a workshop before we actually did it with the kids. So I kind of understood better what I was doing and sometimes when you see it in black and white, it's not always easy to understand and visualize, especially with the Arts. But when you do it, then you get it better.
- And I know the first session that we went to, a lot wasn't gone over in the book and so I just brought it back and we really didn't visit it. And so I brought it the second time and so they went over some of the lessons. And the ones they didn't get to they just went over it and kind of explained it, which was helpful cause you can't get to everything. So that was helpful.
- I liked the way you guys taught and you guys modeled and you showed what it looked like so we kind of know what it looked like in the classroom. Then we can participate.
- Yeah I liked the participation. I liked the actual going through the lesson.
- Well you handed the materials for us to work with. We didn't have to go hunt for the materials. And that was nice and that was nice that you had the lesson plans, too, you know the content standards and the benchmarks and stuff. That was nice to have all those. But the part that I think for me was when I have to give my lesson. The part of making sure that I got the standards down so you guys know what I'm teaching. Cause I don't really do that for my class. I tell them ---- these are the standards we're working on. These are the things you have to do. Sometimes I just tell them this is what I want you guys to learn.

Effectiveness of the in-class mentoring in teaching arts activities

- That was good. The foundation was good. Having time to plan with them and…really planning up the whole three sessions.
- Yeah, because you can really practice it. Before it was like you and, your, umm first year mentor, you did it together.
- Yeah, all of that. And then this time it's like throughout. So this time it's like they show and you work together and you watch them do it by yourself, it was much more, I think, effective.
- I think it was good. It was balanced.
- I think it was good but I think the part that I'm forced to do it is better. Cause I have to actually apply it. If I'm applying it I'm gonna be more so using it in my classrooms and cause last year Vivian came in and she did it like I said. I mean I applied it but I didn't apply it as much this year. Not only did she come in but I actually had to do it. So it forced me to do it. And I was also good in a sense that I was able to do it my own way too. Cause yesterday I did it like, this last week I did that one episode that we did like two times. But I

took pieces of it and I did it. So I think I take pieces of similar things that you guys have and I can incorporate okay this is what I can use. Instead of vocabulary word, doing comprehension. So I have them do the frozen image and then do the whole scene of the beat. And doing that three times was, built my confidence going okay this is so easy. Single thing not to do. So I already knew what I had to do. I didn't need the lesson plan in the sense of have to follow it word for word cause I already knew what was going on. But I just needed to make sure I had the questions that I want, wanted that I did not use the last time. So I was holding the cue cards just to make sure I have them using different parts of their body or different levels instead of just one way, one thing. And then try to get them to travel to different areas but yet they still can't. ---- run around in a circle even though I told them okay I want you to enter from different ways, different areas. They still do the same thing.

Program improvements

- I would have liked to have had the other mentors in here also in doing different projects maybe. If we had the time. Some more or like the uh if you guys had the Visual arts. Although we didn't really have that much visual arts, but we didn't have the choice we want. We had more the drama so yeah, having the other areas. That part I would have changed.
- But you know, we didn't have the chance to choose your final project or whatever you're gonna be working on, because some other schools or other grade levels took it and you have to go, and we have to do drama again. And we have, we have so much drama in our grade level. We kind of wanted to do something different.
- We also want more, I mean of course everything needs more time, but I like the lessons they have in the book but unless we went over it at the workshop, I wasn't as likely to look through the books for other ideas because for me I like to see it or do it or something so if there was like a video that showed all the different kinds of lessons like oh that looks good, okay how does that work, okay. And for me it was as if, I would have tried more things if I had been able to see it or do it.
- Yeah, the four tapings that we did, it would have been nice if it didn't have to be the same type of lessons each - for each of the tapings. Because it got kind of tedious for some of the kids and then for us because we were doing the story it was hard to find something that would fit. You're finished with the story already and move on to the next story.
- I really appreciate the mentors coming into the room and helping us. I felt like [the other teacher] was saying after our lesson and after it was modeled, and then for me to follow through right away, it was kind of, what should I say, was more my doing than what I am…I am very good at taking ideas and incorporating it as my own ideas or doing it my own way. But I feel there was a need for more guidance. Let me think of an example that I used in class and then ha, I don't get this. And umm and I was wishing that [the mentor] was right there so I can have her demonstrate it you know and she wasn't there so of course I changed it around. It wasn't that I had to change…Oh yeah the quilt is one example. We did the quilt and we were supposed to come up with the measurement yeah. We used the measurement to do the certain percentage of what of the thingy is tapa cloth design. A certain percentage is supposed to be ---- so forth and so forth. And when she was explaining it sounded so clear to me, but when it came to my doing it, it was so different so I changed it and I said okay we'll have 24% of your is going to be this design, and then 25% is going to be that design. And then they figure out what the leftover percentage to make a hundred and make up your own design. And that wasn't what was expected but I just changed it. Because I couldn't

remember what it was expected and I was too lazy to go back to the book and read it you know. It turned out really good though. Way far from what we were expected to do but it was still good. They still could get it their hundred percent when they showed, they explained why they had certain percentage of what is what. And they showed that on their pictures.

• I think for me because there is so much stuff that we have to do, like this year we have a new math and we had the ---- last year and then we had SFA last year. So we're dealing with SFA & everyday math this year, learning all these different things that we're kind of mandated. Like this program is not really mandated to us but we're supposed to be doing it. So because I'm trying to figure out one thing and try to concentrate and make sure that I understand all of that but there's a lot of good in all the things that you guys taught. It's just that remembering them, for me, remembering okay this is one thing I could use here. Cause when I'm at the workshops I know oh I could do this with this, I can do this with that. You know it's very simple and it's really easy to do cause it's very simple type of stuff but when I get in a classroom.

• Yeah the book is organized and has all this ----. But it's just that the ---- is the lesson but if you have like one with all the chart, the name of the different strategies, and then a short little synopses so that we kind of glance, oh yeah I remember that…that we can put it in. Something very simple that you can just look through instead of looking at the whole lesson plan. Cause if we wanted to look at the lesson plan and go okay what was this again, then go back and look at the lesson plan. But if we have it right there, umm brief explanation like a short little then we will remember from the workshop. Cause some of the things I kind of forgot what it looked like.

Factors that affected use of the arts activities

• Time
• Curriculum
• time, it's the number one factor.
• Mine was time. I don't mean time of being able to do it, but time to actually look through it. Like forgetting.
• Exactly. You're forgetting what had happened in time. You can't just drop everything and pick that up because there are other things that you have to organize and you have to have the materials and you have to understand the problems, the steps, to go through the process and that's the thing that we lack. Planning.
• If we were more settled in what we were doing already, like if I were more settled with SFA and every math and I got that, I can easily, I mean I can't easily, I think I can easily incorporate some of the things that you said. But then I would be changing it to me, to meet me as a teacher and to meet the kids that I think.

Improvement in teaching quality

• I think for like a lot of the strategies it kind of brings things to life, you know. Like the kids are actually involved in it, in the process.
• It gives me that variety like you said to you know do other things.
• For me it was like watching [the mentor] question you know when they have the, the frozen

statues, those things. And she had to, she was really good at asking questions and just having it flow and what do you observe and getting more from the kids. And that's always good cause sometimes I think I teach, for me, I tend to be kind of, cause we hurry along with our lesson you know we get too teacher-directed rather than coming from students and so the inquiry and the questioning and all that was refreshing. It was helpful and good to learn.

• I think it was helpful to have a mentor in the class. In the whole program we progressed nicely, very appropriately. To see it and you'd actually participate it with your peers. You come back and you get a mentor to try it with you in class and then do it solo. Just the competition, I mean it helped to see it. The small group to see it in my class and to see its benefit. The hard part is just doing it again and again and incorporating it into what you do on a daily basis. So as far as whether it produced a long-lasting affect on my teaching, well I hope so but it might not. Because I'm going to need something in place to remind me to incorporate it. It's not incorporated in the curriculum. We need to add it.

• I'm a much better teacher now. I think this year I'm a much better teacher because of ARTS FIRST. Cause of the, the new things that it introduces. For example, right now we're reading, I could never get the order right, "The Lion, the Witch, and the Wardrobe," okay, and so a combination activity is to draw, summarize the book with drawings, with artwork, you know and uh but before we go into that we're doing it with drama first and all the kids just love that. And you know I love, it gives you more opportunity to observe the way they interpret the information from the book by just watching how they work in little groups to put up their drama and now they're gonna do their art, but we don't have much time. I'm not sure if we will have time. But I wanted to do art to summarize the whole thing and watching the difference between the sixth graders and the fifth graders…sixth graders I don't think they ---- ARTS FIRST. And their artwork are so different. Even the way they act. The fifth graders have to teach them how to do the acting you know. And it's so funny to observe the differences in the two you know.

• Really an eye-opening to me to accept what the kids are doing in their own way instead of my way.

Effectiveness of arts activities.

• More effective cause you got into it more I think. Especially that the kids really get into it.

• Oh the drama really helps with it, some of the stories are hard for them to understand because they either just don't have the background knowledge, or they just can't comprehend. They don't know the characters or the setting or whatever it is and the drama really helps with that one.

• You know we have so much to do everyday and it was just getting worse and worse so we'd like to, but coming back to your question, I really like how the Arts First addresses the kids' right brain kind of thinking to help them to do better with the left brain stuff you know with math and all that so I just think it enhances. It just, it really does. And I kind of, when I clicked on those things, I tended to kind of do the same things, which was to, you know I didn't have time to venture and try some others just because of time restraints and if we did it like another year then maybe I would be able to. It just needs, I think this is just a program that needs more time to go back over rather than just you know presentation and then just a few week. Just one time and then you do it full on. What I plan to do, the ones that I did and felt comfortable with, and I mean honestly this is how I try to do it out of all those folders, I'm gonna to take them all out, put them in my own folder you know with certain things that

I like and I feel comfortable using like the math, word problems, and you act out the umm those word problems. All those kinds of different ones and I'm just going use those. And then if I have time, I'll go back and make a new folder and maybe look through and try something new. And that's how I plan to use it.

- I think the word problems you know they act it out like three plus two equals five. I think that helped them to understand word problems.
- I was really impressed with my kids like we did the drama so when we did umm ---- paddle and so we went over motivation, inferences, umm adjectives to describe feelings and characters and kind of hard, harder things to address as fourth graders umm usually but I was impressed because they could infer things. They were able to talk about motives of characters and they were able to describe how someone was feeling and so that's, that's good cause you know we, they are tested on those things so I was impressed with them. And then although at times it was kind of, of wild, but like that last solo I think they all kind of pulled it together and I got better at the questioning and it was more containment. I was pleased with that cause it was kind of scary at times.
- Two or three years. Then that way they already know what they're doing and they can take their ideas and then just incorporate it.

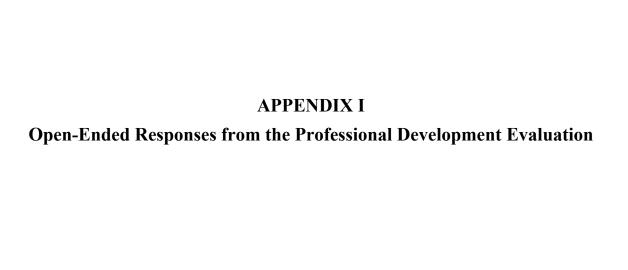## Types of students who benefit more from the activities

- Yeah the low ones.
- Yeah. Probably the low ones. Cause they're not just sitting there and doing the book work or anything else. You can get up and you know move.
- I have a couple of students that not necessarily they're low ones but they benefit just by having more hands-on maneuverable type lessons.
- It gives everyone more confidence in being in front of an audience.
- I guess it's the same as us when we went through the workshop, the all-day workshop. We got to do it and understand it and so and it was more enjoyable than having somebody tell us or having to look through a book. Same thing. You know the kids have the same kind of excitement.
- It's a different intelligence that they have.
- For me, I really liked the hands-on tactile physical activity and umm you know I don't do a lot of it so I enjoyed it. And I think most kids, especially the tactile learner, they really enjoyed it. It caused their mind to turn back on, focus on what we're doing, it really engaged the learner.
- I think for my class because we have the visual arts this year, they, they never have really been taught how to draw and even though it was school work they enjoyed it and I see, I still see vanishing point in their drawings and they still do the lines and they remember the lesson and they're repeating it on their own without my input at all because we never really learned before. And so for them it was like an ah-ha so that's how you do it and that's how you make a tree or that's how you do something. So for my class it seemed like it was just learning the art that was the ah-ha's and the fun part of it not even worrying about it connecting to anything else or that they're still doing math or they're still doing…cause in order to do vanishing point we had to use the ruler to do the railroad tracks and they were struggling with it but that wasn't a problem because they were learning something about art and they really enjoyed that.
- And the kids just love to have a break away from the monotony of doing the same thing

everyday. You know just to incorporate a little bit of ARTS FIRST in there makes working a lot more fun for the kids. I'm just hoping that I could just sort of memorize all of those good ideas and just use them whenever I want to. Use them.
• My shy girl. She opened up more. My shy girl.
• I got shy kids in my classroom but they all opened up. I mean they're still shy but at least they participated

Unintended consequences

• No only that I see in the beginning when we started umm there were a couple of students that I could see were very self conscious about themselves and about what they were drawing because we started off with the contour drawing and things like that but they're not as protected of their work. They're a little bit more open and they're not worried about people looking. So I don't know that to me is just a personal for them which is kind of neat to see them not feel so worried about it.
• I can see it too in the I move, you move thing, I think the students that I thought wouldn't just did it all. Actually went, followed through and tried hard and did open up. Yeah I think they really opened up a lot on that one.
• Maybe I believe what it does do is it increases their heightened sense of detail. In arts there's a lot of emphasis on detail and it really helps kids to look at the small picture, you know the small parts of a picture rather than just cruising through the main idea. So I think it has brought in detail in reading, writing, and math a little bit more to the fore front, which is good. I think that will start improving scores.
• And so I think for these kids it's something to look forward to. You know like I'll tell them oh we're going to have drama tomorrow or we're going to do a Halloween art activity or whatever it is and so it helps them to feel a little bit better during the day so they can have something to look forward to so that they enjoy it. So I think that's important for them, for their attitude. Yeah.
• don't think I've really noticed that how it's affected them holistically. I don't think that it's affected the absenteeism. I don't think it's affected...my group is kind of jaded in some ways. And I don't see that holistic effect that you are talking about.
• You know I'm thinking when schools are so looked at in magnifying glass and there are some schools in corrective action and all that so they just have to teach reading, math, that's it pretty much and I feel that way because I'm teaching reading for the first half of the day and so because I feel so locked in that affects me using that so I can you know with some schools if they don't make their AYP and all that then they won't be able to use.

APPENDIX I

Open-Ended Responses from the Professional Development Evaluation

Open-Ended Responses from the Professional Development Evaluation

1. **Based on your experiences this past year, what are the three top lessons you learned about integrating the arts into your classroom curriculum?**

   - Prepare lessons in advanced
   - Zooming: students were able to focus on main ideas.
   - That it is possible to integrate the arts into other curriculum areas.
   - Arts improves attention to detail.
   - The arts can be effective management strategies.
   - I leaned that integrating the arts helps to involve students in learning concepts in a "fun" way.
   - It is hard just "doing it" on your own without the presence of having to do specific assignments.
   - One lesson is that it takes time to look over different activities in order to implement them in my lessons.
   - I learned that the students learn better in a content area when the right side of their brains are tapped to support the left side of their brains.
   - Railroad tracks (vanishing point).
   - It takes a lot of time and planning, but the effects are well worth the effort.
   - It takes a lot of planning, prep and at times materials.

   ■
   - Gather materials before presentations.
   - Patterning was applied in math patterning too.
   - I don't have to fear trying new things - just be willing to try and its okay if I'm not as skilled as the others. I realize that my students probably experience the same emotions.
   - Attention to detail improves comprehension (math and language arts).
   - We all have different ways of learning and we need to offer the arts for those students that learn best though interaction.
   - Because of NCLB the arts are first to go, but with integrating arts, it allows us to do visual arts, music, dance, and drama.
   - Tableau - I know what it is, how to use it, how it helps the students with communication.
   - Using the arts is not as hard as I thought it would be if I read and apply them.
   - I learned that integrating the arts into my classroom curriculum does help students to learn better (e.g., visualize (create mental pictures), etc.).
   - Geometric boards.
   - Students who were reluctant learners or struggling learners were able and willing to participate and be equally successful in the art activities as the rest of the students.
   - Even the short CM activities have benefits other than management.

   ■
   - Practice, practice, practice
   - I spy - used to spy differences in methods for process of solving difficult math problems.
   - It takes time to plan and implement these integrated lessons, but the benefits are well worth the efforts.
   - Integration of arts can be done in short, quick segments.
   - The arts are relaxing for many kids.

- Some strategies help improve student behavior and classroom management.
- Its worth the time and effort to review the activities because it can enhance children's learning all I have to do is to do it before time elapse.
- Peace quilt.
- Gaps in learning, both in reading and math, were often bridged when combining math/reading with art.

2. **What are the three most important factors contributing to your decisions regarding the use of the arts in your curriculum in the future?**

- Make it part of my curriculum planning
- Use arts to illustrate text and make it more interesting.
- Since our school is in restructuring status, we are required to implement our language arts and math curriculum to fidelity. Our blocks of time given to each area has increased tremendously over the past few years. I may not be able to integrate the arts as often as I'd like to.
- Time restraints.
- My comfort level with teaching the arts.
- Collaboration of students to solve problems.
- Having the time to review and implement in the classroom.
- I think I need to take it off the shelf and go over the lessons.
- It's fun.
- Learning.
- Ease of planning and preparation to do a lesson.
- Time, time, time.

■
- Organize and do it
- Integrate arts with other subjects to give life to the subject.
- Management - the behavior of my students may limit some of the arts lessons that I can implement.
- Pressure to teach all standards.
- Remembering to put aside the textbook and integrate the arts.
- To build self-confidence.
- How I can use what I have learned in a 2nd grade class.
- Not be afraid to implement the activities and lessons in my class.
- It works.
- Fun.
- Availability of materials.
- Preparation.

■
- Cement concept learned by use of the arts.
- Lack of materials and supplies may also be a factor in implementing the lessons.
- I will use arts in the future because it improves reading and math.
- Time.
- To increase comprehension in both reading and math.
- Taking the time to organize and apply what I learned.
- It's easy to do.

- How confident I am in facilitating an activity.
- Relevance to what we're already studying.

3. **What is your overall opinion of the ARTS FIRST processes and materials? How might the ARTS FIRST project better serve you and your students?**

- Wonderful! Very supportive and encourages teachers to try something not tried previously.
- ARTS FIRST has given me a variety of methods to make learning more fun and creative. For example, when we want to summarize, we'd use Ali Baba, or charade main ideas, even use visual arts to draw main idea of each chapter.
- The ARTS FIRST processes and materials were excellent. I enjoyed the format of our workdays - hands-on lessons helped me understand the lesson plans better. The manuals are very helpful and an excellent resource that I will use in the future.
- I have a high opinion of ARTS FIRST processes and materials. I will keep all ARTS FIRST materials to use in the future. I would like to see ARTS FIRST frequently visit the classroom to help keep it implemented into my school year.
- In the beginning the ARTS FIRST was confusing, but it really became more clear to me this year what my role was in the project. I'd like to get together again in the future so I can be "reminded" about the strategies and continue to implement some of them.
- Over the past three years, being part of ARTS FIRST has helped me to integrate the arts (drama, dance, music, and visual arts) into language arts and math. I feel that using the strategies in the future will increase the students learning in other curriculum areas and will make learning more interesting to the students.
- I thought this was great except for the video taping. Thanks! Good opportunity to meet and talk to other fellow educators. I would have liked to have had the other mentors come into the class to teach their lessons and subjects.
- I honestly think the ARTS FIRST program is a really good one. I enjoy the program and always liked drama, music, dancing, and visual art. I've used them in my lessons, but not as structured as it is in the arts program. I appreciate all the hard work, energy, and time all you took to make this program possible.
- Maybe you can make a presentation to the schools once or twice a year to show them how to use it in the classroom. I enjoyed learning everything I learned. Some of the activities to me past my comfort zone, which was good. I will continue to use the processes and materials. Thanks.
- ARTS FIRST was very useful. It helped me learn more about visual arts and how to better teach visual arts. As a plus, I can also integrate the arts with math.
- very professional and highly organized. Thank you for great demos and wonderful resources that I can use to implement these activities in the future. Although it was stressful for me at times, I thoroughly enjoyed the experience.
- I enjoyed being part of the ARTS FIRST process. I feel that the lessons we were given are useful. I wish I could have workshops that demonstrate and/or participate in more of the lessons. I'm more likely to use lessons I've seen or experienced because I don't have the time to browse through the folders very often.

APPENDIX J

End-of-Year Grade 4 and 5 Student Focus Group Comments

Table J-1
Year 3, Grade 4 Student Focus Groups Comments

Activity description

- we usually do like drama and other things.
- like focusing, acting, that's pretty much it for me.
- like make a story, a short story.
- And sometimes we do like this math story
- Yeah. Like we have to like [the mentor] puts some problems on the board and we have to get a partner and she umm assigns us different numbers.
- One we did we started to ---- some kind of a dance. She was doing slow motions and we were copying her.
- well umm she [the mentor] came in and we, she read us this story of crow boy and we had to, and then she read another version of crow boy I think and then we had to compare.
- We draw a train track
- after we read crow boy we got to learn how to use a ruler to draw train tracks.
- After crow boy we had, we ---- with us and we umm we closed our eyes and we dreamed about going, being crow boy.
- She like told us what like what part and we had to try and like see what we think that part would look like. Like there was one time he was going into the forest and he saw this bush. So then we had to close our eyes and think about what we thought was behind the bush.
- We even took a picture of going through these bamboo trees, through it. And then there's this stream in there and we want to visualize what's in the stream, like a fish or a crayfish or other stuff.
- She plays music and then you have to do a four count movement. And then you do it, and the whole class echoes it.

Favorability of activities

- It's really fun because umm when we do all kinds of things we laugh.
- I think it's quite entertaining and fun and one more thing...it's exciting!
- I love doing it because we get to do all kinds of activities and we get to play around with each other.
- I like doing it cause it's kind of like a second recess and a third recess.
- Cause then like, when we do like, before we used to do like tableaus and it was really fun cause we had to go outside and practice.
- Oh and it's really, really fun.

Activities purpose

- I learn that umm that having fun is better than just ---- somebody and stuff so at least we're having fun with it.
- Before umm when we were doing the class and stuff we go like that and stuff and we go like that and stuff when we were clapping we did our stories.
- Sometimes we do math and we make up stories while we go around in a circle and each person says one sentence and umm we also learn that we don't have to stare at the tv all day when we go home and play games and stuff.

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- they help us umm get flexible.
- I think we're doing it because I think it's kind of like a skill for us to learn to work with others better.
- so umm if we like go in a play for drama we know what to do.
- What I think, I think we're doing these activities is to get our focus skills up and improve with our, improve getting along with each other because mostly every single day [its "no that's mine!" " I grabbed that before you!" Or "get out of my partner's stuff!"
- I think we're doing this because it makes us calm instead of jumping around in class and stuff.
- We get some exercise by doing it.
- Yeah you get to stretch out.
- It educates us.
- Umm like when like we, instead of PE, we can have inside activities. Like we can do like ---- instead of PE and running and that stuff.
- Because it exercises your brain. It exercises your brain.
- Maybe if we want to act in a play we might get better at it.
- learn to express yourself in a different way.
- Cause everybody can express themselves in different ways.

Unfavorability of activities

- One thing I didn't like is because it's so darn short.
- One thing I don't like is when people like get into fights and stuff and we all argue and like we argue and start a fight. Well because we're not getting along and we don't know what's best for us so we just do whatever we want.
- What I don't like about umm when [the mentor] comes it's like people start taking advantage that she's not our teacher and they start acting up.
- It was embarrassing.
- Yeah it was embarrassing when we were able to do our own motions. And it was hard to think of a motion.
- Yeah it is hard. But yeah you had to get it in one, two, three, four, five.
- I didn't like it very much because whenever like it seemed like whenever it was somebody else's turn they always forgot it.

- It has helped, it has helped me cause my mom at home she's got this paper from [the mentor] that says teachers like do plays and stuff. I think some of you got the other paper but she, and my mom she always like take me off the couch and she would have me do a play for her instead of watching wrestling and watching Stone Cold beat the crap out of Cane.
- Oh I think it helped with my math because we're like playing stuff out like ten times ten equals a hundred. I have ten of this and you have ten of that. Put it all together. We got twenty.
- with writing because she makes come up with all kinds of ideas.
- It helped me with my math cause the old boring is we would just sit at the table and we would write like this but now in math you get like you can write like a picture and do that and it's just kind of more fun than just sitting at the table going like that.
- It's helps me by like like teacher just, our old, I mean [the teacher] just writes it on the board and asks people but [the mentor] lets everybody do it like let's like everybody do the same question and stuff. It like entertain us. She even does the play too.
- I think that umm it would've changed and you could compare and our visualizing is better because you get a better picture and umm like umm if you're visualizing you get more creative. So after we did the visualizing we umm added on to the story a little bit. We were able to do that. And then so that umm that umm sparked our creativity.
- like creative writing and art and like copying music, obeying, stuff like that.
- you learn how to draw more things.
- Sometimes when we do art, like different kinds of art, it's kind of fun cause you get to learn new things and we get our hands all exercised and our bodies.
- It really helped with reading.
- Art. Because like for art umm we were learning how
- Math.
- Because now we know how it feels like to be some of the characters in the story.
- It helps me in writing to make it more interesting like when you add adjectives

Table J-2
Year 3, Grade 5 Student Focus Groups Comments

Activity description

- we do like patterns. Like umm with paper and like umm our body.
- Oh we act out things to uh show the price of something.
- We act out things to show like umm the product of a multiplication umm problem and or uh sum of a addition problem.
- We just look at our hands or something like this then we draw on paper without looking at the paper. Like there's a picture and then you gotta like tell this other group like what to look for in the painting. That like arts and then like yet we have to like spot for things like objects. Like squares, triangles, circles.
- Umm we usually do drawings of like, she'd grab a table and put it in the middle of the room and she'll like put objects and she'll say like try to draw umm also of that one thing that you'd like to draw.
- And we also, she passes out pictures, umm art pictures, and we have to put our little frame that we made on a picture.
- Oh we made a sketch journal.
- Drawing, like umm, we did vanishing point and sometimes we look at pictures to see point of view and stuff.
- Railroad tracks.
- yeah railroad tracks then we stayed there for like an hour then came back and concluded our railroad tracks.
- Yeah we had this like scavenger hunt kind of stuff.
- Eye spy.
- We also did umm a pattern thing that we had to color in and stuff.
- We had this design thing where you have, you had to do umm two patterns...you could use our template which is like has all shapes and stuff and then you had to do the four squares so then you have to put on the first and second you put the same thing.

Favorability of activities

- I like ---- cause like you can express yourself to do it like when you're doing it and stuff.
- Yeah umm I like the way she like we — yeah like the art things and stuff like those kinds of lessons. And the math thing that we did last week. That was funny. the one like you have to act out a problem.
- I like making things. Like umm I liked the reading project that we had. Umm there was like umm there was like strips on a paper then we had to weave another strip of paper through it then like we did designs and stuff. To show pattern.
- I like umm like when we do the math problems because art and math is my favorite.
- I like the music she plays.
- I like drawing.
- I like drama.
- That it's fun and educational.
- You feel good.
- I like drawing. I think it's kind of more fun than dancing I think.

- I like drawing cause I'm like a drawing freak. My dad loves drawing. My dad's dad likes drawing so it's like part of my family.
- I like it a whole lot because umm every time I look at a picture it seems like I want to draw something that looks exactly like it.
- I like it because umm you know few of us here really like to draw and we didn't draw these kinds of things before and now it's like new and we learn how to draw more so it's fun.
- I like to do the pattern one because it makes you do anything, any pattern. Cause then you get to, you don't have to do any measurements or anything. You just have to pick a color

Activities purpose

- Oh I think that drawing is good because you get to learn more stuff and like learn how to draw something that you never knew how to draw before.
- She told us that umm when you're drawing the tree just think of it as umm lines.
- Oh yeah umm you have to look at paintings, too, and find things that other people won't but you saw in the pictures.
- Umm to see if arts will help you improve in your math skills and your reading skills.
- It's for focusing. So we relax and then try to be creative and it's really nice music.
- To learn.
- To keep you focused.
- To be more in your right side of your brain instead of your left.
- So you know how to draw or what you're gonna make when you grow up.
- Yeah it's kind of a math thing fused with uh umm art. Yeah art accented with math.

Unfavorability of activities

- I don't know. It's hard.
- It's hard
- Measuring. Because it's too long and some people don't really know that much about measuring and it's hard and it takes really long to figure out how to do one measurement.
- Well some students don't really like learning anything.
- I'm not really a drawing person.

Helpfulness

- Umm I know umm that last lesson we had when that helped us to create it and how to write a problem easier, a math problem easier.
- Umm it has helped me like umm like we've also been doing art by ourselves and like we've been doing, we've been doing what she taught us to do. And like before I like couldn't draw and now I can.
- Yeah. I like to draw. Like I love to draw but umm it helped me better to draw things better by the way they look than sort of the cartoon look to make it look more realistic.
- You are more imaginative once you draw.
- Because they umm teach you how to do new things.
- Because they can when you want to like build a house, you have to draw all the angles of the

house and where to put where the wood is supposed to be.
- Cause umm now we're measuring things with fractions.
- Yeah pretty much just the measurement.
- I don't know cause then ever since the umm art teacher [the mentor], she's been teaching us how to draw umm they get better and better instead.