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Continuous Improvement at Active Learners Elementary

An Internal Coherence Case Study

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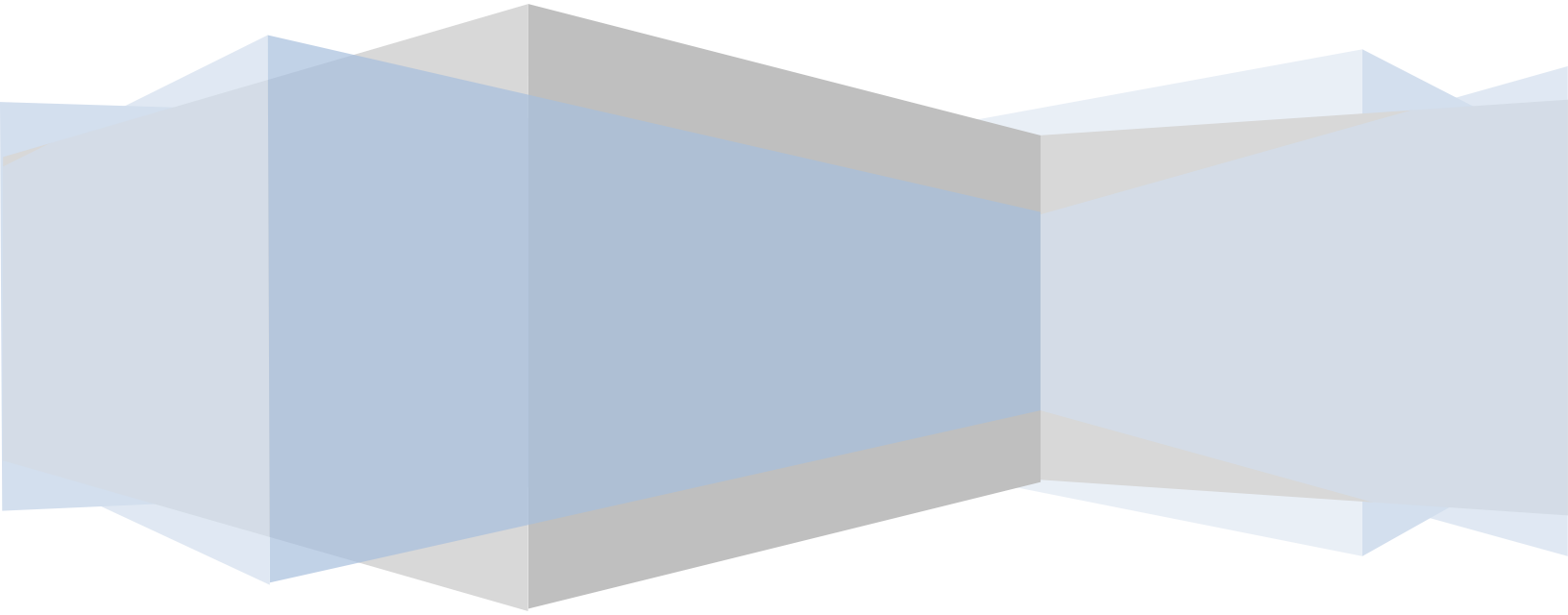

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Active Learners Elementary is a school of choice that was founded around a vision for learning in which students actively construct and apply their learning to real-world issues. Principal Diane Johnson describes their goal as developing students who can think, understand, and "apply what they've been learning to a new situation—hopefully a real world situation—that's what [project-based] learning is about." The school's mission emphasizes a "child-centered environment" where students have choices, make decisions, accept responsibility, and engage in meaningful learning experiences, such as project-based learning.

The school's curriculum reinforces its student-centered, constructivist approach to learning. Using Teachers College Reading and Writing Workshop and Investigations math curriculum from TERC, students apply what they have learned in teacher-led mini-lessons as they read books of their choice, create original writing pieces, or engage in math games with their peers. Teachers are expected to incorporate project-based learning in the curriculum and all new teachers participate in a week-long training each summer for three years to support this work. As part of this, teachers are expected to incorporate project-based learning into their instruction and present about their learning from this experience as they advance in the training program. In addition, teachers use a Positive Discipline approach that encourages students to take responsibility for their choices and work with peers to resolve conflicts, an approach that supports the collaborative nature of project-based learning. The school has a history of success supporting student learning, particularly in reading and writing [see Exhibit 2: Student Achievement]. Teachers participate in ongoing curriculum-based institutes, conferences, district-based professional development, and collaborate regularly with colleagues.

Teachers and administrators report that the faculty and families are committed to their vision of active learning. As a school of choice, families apply to have their child attend the school and are chosen by lottery. This process assists in developing a community committed to their vision for teaching and learning. The school is popular among parents and teachers alike. One teacher shared how he was eager for his daughter to attend the school. Seeing the positive learning environment in the school inspired him to get his degree and apply to teach in the school. The collaborative hiring process reinforces the commitment of the faculty to this vision. A panel of teachers determines whether each teacher is a good fit for their school before the principal gives final approval to a candidate. Once hired, teachers receive training in the school's Positive Discipline approach, project-based learning, and go through Gifted and Talented teacher certification. This hiring and training process helps to develop shared beliefs about teaching and learning among the faculty.

Leadership for Instructional Improvement

Principal Johnson was one of the first teachers at Active Learners Elementary when it was founded 20 years ago and has been the principal for 8 years. A teacher describes Johnson as "the best leader" she has ever worked with "because she gets it. She understands that when leaders take care of their people, the people will accomplish the mission. Our mission is educating children." Johnson leads the school together with part-time assistant principal, Janice Franklin. Franklin has been the AP for five years and describes herself as a "support person"

who helps to carry out Johnson's vision for the school. Teachers report that the administrators at the school treat them as "professionals" and trust them to make decisions about what is most appropriate for their students.

Part of treating teachers like "professionals" is providing regular feedback on instruction while giving teachers authority to determine the most effective approach to meet their students' needs. Johnson and Franklin are regularly in classrooms. A recent district mandate, which requires each administrator to complete 10 walkthroughs and 3 face-to- face conversations with teachers each week, created a structure for tracking feedback given to teachers with an online system. Teachers describe being observed by the principal as a helpful and "safe" process. One teacher said that the administrators "are there to help us be better teachers, they are not there to sit and critique us and tell us everything we are doing wrong. When they come into our classrooms and observe us they are always looking for the positive in what we are doing. We are very supported." Another teacher described the principal's feedback as "very complimentary." This teacher thought it might be "hard for her to find something that we're not doing well or that we should do better." Another teacher described how the principal's feedback encourages them to reflect on their practice individually and with colleagues rather than being directive. This teacher described how she asked her colleagues for ideas on how to support young learners with visual cues after getting feedback from Johnson. Through discussion with colleagues she learned about another teacher's approach to using visual aids, which he has implemented and found successful for supporting student independence in her classroom.

The principal and teachers describe the faculty as a community of learners. The principal actively cultivates this culture of adult learning by encouraging multiple points of view and bringing in research from experts in the field for discussion. The principal encourages teachers, particularly new teachers, to feel safe asking questions. She explains, "I want them to know that they can come to me with any questions. I'm not going to judge their questions. Let's just talk." As one teacher explained, she wants teachers to be "problem solvers," actively seeking out challenges to student learning. For example, when the vertical science team was working on the problem of how to address student achievement in science in the upper grades, teachers identified the problem that they did not have a process for assessing student's science knowledge and skills at the beginning of each grade. One teacher thought information from these benchmark assessments would help them to identify areas to support students in meeting science learning goals each year. Johnson encouraged the science team to come up with a plan for addressing this problem and present it to the faculty for discussion.

Johnson says that what she is "most proud" of are their ongoing efforts to improve instruction. "We are constantly raising the bar as far as what we believe best practices are. We base that on professional development—mostly professional development that our colleagues get during the summer." Thanks to donations from their "generous PTA," teachers have funding to attend training and conferences, including institutes with Teachers College Reading and Writing Project, NCTM (National Council for Teachers of Mathematics) and science conferences. The principal explains that the TC "work is the standard we would yearn for, so we're constantly reading what they're reading, hearing what their research is showing, and we give it a go here." Teachers describe their summer professional development as opportunities to learn from "the best of the best," experts who are involved in the latest research on instruction.

Teachers are responsible for sharing what they learn in professional development with their colleagues. Teachers take this responsibility seriously, preparing presentations to share key learning from their professional development experiences, relevant research, and resources their colleagues could use in their classrooms. At a recent faculty meeting, two teachers presented their learning from a recent district professional development session on Singapore Math. Johnson explains that this work originated from their interested in Singapore Math after learning about it at the NCTM conference. The teachers share three strategies that are part of the Singapore Math approach, including having students skip count by 2s and 3s as they connect the dots to create a picture and a math bowling game. They plan to continue sharing their learning as they continue with the training. They hand out an article to their colleagues, explaining that this study found that young students made dramatic improvement in number sense and problem solving after engaging in the program. Johnson notes that this is an area students struggled with on the recent administration of the state test.

Whole-School Organizational Processes

The faculty works together to come to agreement about best practices. They have developed what they jokingly call a "Book of Answers" where they record best practices in every content area [see Exhibit 4: Qualities of Good Teaching in Mathematics and Reading]. They record what each practice sounds like, looks like, what the teacher is doing, and what the student is doing. According to the principal, they regularly revisit and revise these best practices. The principal explains, "One of our mission statements is about creating lifelong learners in our children, but it's really important for us to demonstrate that as well. We think of it as leading scholarly lives, wanting to know and read and try." For example, a teacher recently came back from an institute at Teachers College where she learned a new approach to writer's workshop. Johnson explained that the teacher seemed somewhat concerned about this at first but she was happy to learn about a new approach. "Wouldn't you want someone who was doing research at that scale to occasionally change their mind about something—they learn something that causes them to want to change a practice?" asked Johnson. Johnson says that they are currently following up with the summer learning in their faculty meetings, and they plan to revisit their best practices and see if there is anything they need to revise, add or remove based on this learning.

There are clear structures in place to involve teachers in making instructional decisions. One teacher from each grade participates in each vertical content team in ELA, math or science. They meet at the beginning of the year, look at the state test data from the end of the previous year, and conduct item analysis to see how students did school-wide. Johnson explains, "Those teams guide their portion of our Campus Improvement plan. It's their job to develop a plan for how to address the difficulties we're seeing in that data."

Teachers Work in Teams

Johnson sets the direction for each grade-level team meeting but leaves teachers in charge of running their meetings. Each grade meeting has a clear agenda and a facilitator, the grade-

level leader, responsible for making sure they accomplish what they have planned for each meeting. The grade-level leader role rotates among teachers each year, giving all teachers a chance to take a leadership role. Teachers share their agenda and any questions with Johnson after each meeting. The administrators have been working on refraining from "micromanaging" teams. As part of this, they have reviewed research on collaboration and asked current grade-level leaders to participate in a five-day training on teacher leadership.

Teachers generally have a clear idea of what they need to accomplish during their grade-level meetings and work diligently to meet the meeting goals. In their most recent meeting, Johnson asked each grade-level team to discuss how they record differentiation for Gifted and Talented students and determine the students they would ask to attend intersession for additional support. In addition, teachers discussed their plans for the coming week. In some teams teachers plan jointly after school, in others teachers share responsibility for planning—each taking responsibility for each part of the curriculum—and share the week's lesson plans at their meeting, and in some teachers plan individually and "check in" about where they are in the curriculum. In one team, a teacher takes a couple minutes at their meeting to share how she has starting using Singapore Math resources in her classroom after hearing a teacher share about the approach in the faculty meeting. She shares how she included the folders that they can choose from during math centers. She gives the other two teachers a copy of each of the papers, including number recognition color sheets, counting by 2s and 3s dot-to-dots, and a 100s chart game.

Efficacy Beliefs

Teachers at the school describe the students in the school as diverse in background but sharing an eagerness to learn. One teacher attributed this enthusiasm for learning to the fact that their parents made a choice to send their child to the school. Another teacher remarked, "I think the very most important factor in how students learn is the relationship between students, teachers and family. When all three are headed in the same direction, students make amazing progress."

Teachers share the belief that the school's vision for active learning supports meaningful student learning. One teacher explained, "I think the excitement about what they're learning and why it's meaningful" is important for learning. "They have to know that it means something, that their work is important. I think that all the teachers here do a good job with that." As part of this active learning approach, teachers have done extensive work in writing to develop common understandings of student performance standards. Teachers engage in making sense of the standards for student learning together with their colleagues as well as their students. Teachers and administrators report that they have seen that when they set a standard and help a child understand what the standard is—analyzing the standard using a checklist, generating a rubric with students, and showing them benchmark work from other students—then student work is more likely to meet standards. Although their work developing common rubrics with their colleagues and working with students to understand expectations for their writing has required a great deal of time and effort, faculty members attribute improvements in the level of student work to their work with the standards. Johnson remarks, "I work with a group of people who thinks they can do anything. We will tackle anything that we think can help our kids."

Mathematics Instruction at Active Learners Elementary

Walking into each classroom, students are actively engaged in mathematics games and problem solving. In one class, students play a game with coins in groups of three. They roll a die, collect the number of cents in coins, and exchange coins for higher value coins as they try to accumulate $1.00 worth of coins. Students work in heterogeneous groups, some students quickly calculating in their heads the value of their combined coins and others struggling to count coins of different values. In one group, a student tells another student that he can exchange his coins for a quarter and asks if she can help him count his coins. The teacher circulates to different groups, encouraging students to count and exchange their coins for coins of higher value. The teacher explains that two students developed this game and taught it to their class.

In another class, students have a very large, blank 10,000 chart from TERC Investigations in front of them and are working in groups of four to locate specific numbers on the chart. They have a page from the math workbook out that asks them to find the numbers. In one group, a student has taken a leadership role and asks the other students in her group to take turns locating one number each and checking each other's work. In another group, a student asks her group to slow down and explain what they are doing. One of the students has labeled the chart in one way and two other students have labeled it in a different way, making it unclear where each number would fall on the chart. The teacher checks in with this group and asks, "What are you having trouble with?" One student says that she feels like she has been left out and does not understand what they are doing. The teacher notes that they are working on the chart two different ways. She asks them to choose one way to work and agree to work together. When the teacher leaves, the students continue to work with their two different approaches, leaving the frustrated student confused about how to read the chart.

Current Challenges

While Johnson says they have been happy with their language arts performance, their math performance is not where they want it to be. Each year fifth grade students have three tries to pass the fifth grade state mathematics assessment. They must pass the ELA and math assessment to be promoted to the next grade. Johnson describes the recent challenge with students' math performance:

> It fell tremendously short last year on the first administration. When I saw the scores, I was taken aback. We had 21 students not pass, and never in the history of the school were there that many students not passing. I turned it over to the staff and said—this is our problem. What are we going to do? Everyone without a classroom ended up tutoring those kids. It was amazing to me. I was tutoring, our AP was tutoring, our counselor was tutoring, our multimedia specialist was tutoring—everybody pitched in. It was not acceptable that our kids were not passing, and we got it down to four not passing.

Examining the data from last year's assessment. They found that students had the most trouble with number sense and quantitative reasoning. On the other hand, they noticed that there was an

increase in students scoring at the advanced level—from 14 to 25 last year. She reflected, "Something we were doing appealed to our high achieving math kiddos." Their campus goal this year is to support at least 75% of fifth graders in meeting or exceeding the Numbers, Operations, and Quantitative Reasoning standard (see Exhibit 3: Campus Improvement Plan).

Administrators have noticed that teachers are using different problem-solving approaches during their classroom visits. Johnson wants their students "on the same page across grade levels. They need to hear the same language and see the same expectations." Johnson describes her strategy for addressing this challenge. First, she plans to ask grade-levels to discuss their problem-solving approach. Then she will turn over this challenge to the math vertical team. Johnson plans to have them "talk this over. There is someone from each grade level on [the] team, so they can demonstrate the process and choose one." She expects them to share their decision with the full faculty before a final decision is made. Johnson continues, "That will go in our revised Campus Improvement Plan—teach 'blank' problem solving strategy at every grade level." She adds that the approach may be different in the lower and upper grades. The vertical team has had additional training in their area, so Johnson feels "comfortable turning that problem over to them."

Exhibit 1: Active Learners Elementary Student Demographics

Student Demographics						
Total Students	% African American	% Hispanic/ Latino	% White	% Economic Disadvantaged	% Special Education	% Limited English Proficiency
394	8%	29%	54%	17%	12%	4%

Exhibit 2: Student Achievement for All Students

Grade 3-5 State Assessments						
	2011-2012			2012-2013		
	% Unsatisfactory	% Satisfactory	% Advanced	% Unsatisfactory	% Satisfactory	% Advanced
Grade 3 Reading	11%	57%	32%	11%	64%	25%
Grade 3 Math	30%	57%	13%	34%	60%	6%
Grade 4 Reading	8%	58%	34%	14%	47%	39%
Grade 4 Math	25%	64%	11%	23%	63%	14%
Grade 5 Science	16%	59%	25%			

Grade 5 State Assessments									
	2011-2012			2012-2013*					
	One Administration			1st Administration		2nd Administration		3rd Administration	
	% Unsatisfactory	% Satisfactory	% Advanced	% Unsatisfactory	% Satisfactory	% Unsatisfactory	% Satisfactory	% Unsatisfactory	% Satisfactory
Reading	5%	68%	27%	12%	88%	5%	95%	4%	96%
Math	17%	58%	25%	35%	65%	19%	81%	11%	89%

*Note: In the 2012-2013 school year all 5th grade students were expected to pass the reading and mathematics state assessments in order to advance to the 6th grade. Students had up to 3 tries to pass each assessment. The percentage of students scoring satisfactory (or unsatisfactory) at each administration represents the cumulative proportion of students at that performance level, taking into account students who performed satisfactorily on previous administrations and those who performed satisfactorily after retaking the assessment at the most recent administration.

Exhibit 3: Campus Improvement Plan

SMART Goal: By June 2014 at least 75% of all 5th grade students will meet or exceed standards in Numbers, Operations, and Quantitative Reasoning category as measured by the 2014 state math test.				
Implementation Action Steps	**Person(s) Responsible**	**Projected Date**	**Actual Date**	**Funding**
Analyze state test data and released math test items to inform instruction for all grade levels in mathematics	Teachers, Data & Leadership Teams	September, 2013		N/A
Provide staff development for math vertical team at NCTM conference in summer of 2013, debrief during begin year campus professional development	Vertical Team, Leadership Team	August, 2013		PTA provided funding
Utilize intervention guide from Investigations/Envision curriculum and school scope and sequence to teach specific standards not addressed in Investigations, especially in the Numbers, Operations, and Quantitative Reasoning category	Teachers, Leadership Team	June, 2014		
Provide fall intersession interventions to address identified weaknesses in Numbers, Operations, and Quantitative Reasoning	Teachers, Leadership Team	October, 2013		
Provide year-long small group interventions for Tier II and Tier III students who did not meet 4th grade state standards in math, 45 minutes weekly, in place of technology class	Science Lab Assistant, Reading Tutor, Leadership Team	June, 2014		PTA grant for math tutor
Create word walls in each classroom with common words expected to be seen/used on math assessments	Teachers, Leadership Team	June, 2014		

Exhibit 4: Qualities of Good Teaching in Mathematics and Reading

Qualities of Good Teaching Mathematics

Best Practices

What does it look like?	What does it sound like?
Students and Teachers: • communicating mathematical understanding • collaborating in pairs and small groups to share ideas The classroom has: • student work posted • math word wall • rubrics	Students and Teachers: • using accountable talk • using mathematical vocabulary • engaging in questioning/ discussion The classroom is: • noisy • quiet
What is the teacher doing?	**What are the students doing?**
• selecting task with learning goal in mind • sharing essential new skills through communication and modeling • establishing classroom culture • ensuring that ideas are valued • encouraging risk • conferencing with individual and small groups of student • ensuring that the task meet the needs of a range of learners (differentiated task) • selecting activities that help students develop problem solving procedures and computational proficiency	• engaging in learning mathematical ideas (active participants, discussing with peers) • using manipulatives (tools of many kinds) • working with partners • taking risk • listening to one another • choosing their own strategies and justifying their answers • practicing their newly acquired knowledge • making and learning from mistakes

Qualities of Good Teaching in Reading

What does it look like?

- libraries-varied materials both fiction and non-fiction
- small group, whole group, pairs, individual
- a place for gatherings

reading
- interaction & movement
- reading boxes
- teacher table with needed materials
- self managed
- literacy centers
- charts of learning
- technology (computer, promethean board, audio,)
- reading presentations (children sharing their work
- word walls

What does it sound like?

Teacher and students:
- questioning
- sharing, debating
- silent or quiet during independent

- read aloud
- discussion
- singing, chanting, reciting
- sharing buzz

What is the teacher doing?

- Acting like a joyful, literate adult
- modeling thoughts
- reading aloud
- using before, during, & after strategies
- encouraging students & accepting students as they are
- observing, conferencing, taking notes
- teaching strategies
- listening to discussions
- assessing prior knowledge
- being intentional w/ cross-curriculum reading
- designing an efficient room
- giving opportunities to read
- structuring guided reading focused on comprehension strategies
- holding students accountable

What are the students doing?

- making choices
- reading A LOT everyday
- sharing their ideas
- responding – creative ways

- talking
- doing research
- participating in online work
- working in centers
- listening to the ideas of others
- motivating & enticing others
- taking risks
- self-checking
- speaking, listening, viewing
- using their resources- word walls, computers, rubrics, charts
- solving social problems