

AN EVALUATION OF VERMONT'S EDUCATION FINANCE SYSTEM



Montgomery Elementary School Case Study

Prepared by
Allan Odden
Lawrence O. Picus

January 18, 2012

Lawrence O. Picus and Associates, LLC

lpicus@lpicus.com

www.lpicus.com

v. 818 980-1881; f. 818 980-1624

MONTGOMERY ELEMENTARY SCHOOL

Montgomery Center, Vermont

By Allan Odden, Partner, Lawrence O. Picus and Associates

Montgomery Elementary School is located in a picturesque community in North-Central Vermont, nestled at the foot of several mountains, relatively close to the Jay Peak Ski resort. It is part of the Franklin Northeast Supervisory Union. Montgomery is a high performing school, enrolling about 112 students in grades K-8, plus a preschool program that enrolls 15 four-year old children. Enrollment is up from about 100 students a decade ago. Generally, there is one class per grade level and the number of students in each grade ranges from 7 to 20. Between 55 and 60 percent of students are eligible for free and reduced price lunch, the poverty largely due to lower family incomes in rural areas. For the 2009 school year (the last year for which we have data for all districts), Montgomery Elementary School spent \$9,499 per student for current instructional expenditures minus transportation, quite below the state wide average of \$13,923.

The community is quite diverse with many children from families who were born and raised in the community, some from urban families that moved to rural Vermont and work via the internet and increasing numbers of people working for the expanding Jay Peak Ski Resort. The area also has many second homes, owned both by Canadians and Americans.

Students begin arriving at school at 8:00 am. Those eating breakfast enter the building when they arrive. By 8:35 all students enter the building, attendance is taken, there is a morning program, and instruction begins at 9:00. There is a half hour for lunch and classes end at 3:00. The last bus leaves at 3:35 p.m.

Student performance at the school has been phenomenal as the data in Table 1 show. The numbers show a strong consistent rise in student performance on NECAP exams over the six

Table 1

NECAP Scores for Montgomery PreK-8 Elementary School, 2005-2010

Subject and Performance	2005 NECAP	2006 NECAP	2007 NECAP	2008 NECAP	2009 NECAP	2010 NECAP
Mathematics	Grades 3-8					
Proficient and Above	73%	71%	69%	81%	89%	88%
Proficient with Distinction	25%	27%	14%	38%	52%	48%
Reading	Grades 3-8					
Proficient and Above	66%	70%	77%	84%	85%	89%
Proficient with Distinction	12%	20%	26%	29%	37%	37%
Writing	Grade 5					
Proficient and Above	66%	70%	46%	74%	--	84%
Proficient with Distinction	25%	23%	5%	43%	--	42%
Writing	Grade 8					
Proficient and Above	72%	33%	--	78%	--	83%
Proficient with Distinction	9%	0	--	21%	--	30%
Science	Grade 4					
Proficient and Above				44%	76%	73%
Proficient with Distinction				0	0	10%
Science	Grade 8					
Proficient and Above					57%	45%
Proficient					7%	5%

with Distinction						
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years from the 2005 to the 2010 school year. But most important is the high percentage of of students scoring at or above the Proficient and above Levels in mathematics (88%), reading for Grades 3-8 combined (89%), and writing for both Grades 5 (84%) and 8 (83%). Scores this high are rarely attained by schools with the high poverty levels of Montgomery, whether in urban or rural areas. Moreover, the numbers show that even more impressive gains have been made by students scoring at the highest level -- Proficient with Distinction, with more students performing at these high levels in mathematics than at the proficient levels. These high performance levels could not have been produced without improvements by the majority of the students in the school who come from families with incomes below the poverty level. Montgomery Elementary School appears to be producing both excellence and equity in education by raising the performance of all students. These test scores represent what Vermont desires for all schools and students – high levels of performance for all students.

This case is the story of how Montgomery produced these impressive results. It was not from high spending, as the district spends below the state average. It was not from high teacher salaries, as salary levels were in the middle ranges of those across the state. These results emerged from the hard, professional work of teachers, implementing a solid curriculum program, complemented by multiple strategies designed to insure that all students receive the instructional time needed to perform at proficient levels and above.

The case is based on written documents as well as interviews with the principal and nearly all certified staff in mid-October 2011. The case is part of a study of the Vermont school funding system being conducted for the legislature by Lawrence O. Picus and Associates. The case has the following six sections: School Staff, Goals, Curriculum and Instruction Program, Student Assessments, Interventions, Organization of Teacher Work, Professional Development, Culture of Achievement and Hard Work, Talent, and a Summary.

The Staff

Montgomery Elementary School has 13.1 certified staff positions (presented in full time equivalents) that include:

- 1 Principal
- 8.6 classroom teachers including 1 Kindergarten teacher (the kindergarten program is all day and is joined by preschoolers in the afternoon), 1 Grade 1 teacher, 2 grade 2/3 teachers, 1.6 grade 4/5 teacher positions (one individual counted as 0.6 here teaches math for grades 4/5, social studies for grade 8, and PE for 0.4 which is counted next in elective teachers), and 3 Grade 6-8 teachers, one each in math, language arts and science.
- 1.2 elective teacher positions, including 0.4 music, 0.4 art teacher, and the grade 4/5 teacher who also teaches 0.4 PE.
- 0.9 pupil support staff, including a 0.5 nurse and a 0.4 guidance counselor.
- 1 special education certified teacher
- 0.4 librarian

- 2 paraprofessional Teaching Assistant tutors, including a reading tutor who works 4 hours 4 days a week, and a full time math tutor. Though paid at the teaching assistant level, the reading tutor is a retired, certified teacher reading expert from a neighboring district and the math tutor has a BA in engineering and is trained in the school's math tutoring program.
- 5 instructional aides, 3.5 in special education (one for speech and language), one supported by Title 1, and 0.5 for the preschool half day program.
- 5 classified staff including an administrative assistant, a cook and assistant cook, and two custodians.

Class sizes range from 7 to 20, depending on the class and the number of students in each grade, and average about 14. Class sizes are small. Elective teacher positions (1.2) are 14% of core teacher positions (8.6), less than the Evidence-Based Model of 20%. The school has several extra help staff positions and a strategic approach to interventions for struggling students as described below.

High Goals

Annually, the school reviews performance data over multiple years from multiple sources: a Vermont developmental reading assessment, their NECAP scores in math, reading, writing, and science; the annual mathematics portfolios; the school's previous SMART¹ goals, formative assessment results, Reading First test results, Youth Risk Behavior Survey results, and previous years disciplinary and attendance records.

Then, the school sets high goals for every student in multiple areas. Within most classrooms, students are expected to do work that is at least 80+% correct; that is the bar.

¹ Specific, Measurable, Attainable, Realistic, Time bound.

If any paper, worksheet or task gets a score of less than 80%, the student must redo the assignment. Over time, this has incited all students to focus on getting things right and to ask questions in class, as they know that if they do not understand what is being taught, and do poorly on the assigned work, they will have to do the work over. Students understand that it is better to ask questions and make sure they understand the material so they do assignments only once. As noted below, teachers check for understanding and often reteach, but this goal for student work has produced both extra student and extra teacher effort and focus.

This overall goal across all subjects is supplemented by specific numeric goals for improved student performance in all subjects and at each grade level. This includes goals in academic as well as behavioral areas. Further, the school has goals both to reduce performance at the lower levels and to increase performance at the higher levels. For example, for reducing low performance, the school set the following goals for the 2011 and 2012 academic years:

- Reduce by 10% the number of students falling in the bottom two performance levels on state and local assessments in **reading**, while maintaining or increasing the number of students who are meeting or exceeding the standards.
- Reduce by 10% the number of students falling in the bottom two performance levels on state and local assessments in **writing**, while maintaining or increasing the number of students who are meeting or exceeding the standards.
- Reduce by 10% the number of students falling in the bottom two performance levels on state and local assessments in **math**, while maintaining or increasing the number of students who are meeting or exceeding the standards.
- All students will have a learning environment that is safe and respectful, and where the dignity and uniqueness of each individual are honored.
- Improve access to learning opportunities for all students.

The following is an example of general goals for increasing performance at the higher levels for the 2011 and 2012 academic years:

- Performance Targets will be updated (and increased) annually. [Note: this means that every teacher must increase every goal every year, a practice that reflects a desire to be a continuous improvement organization, and which is reflected in the consistently improving results shown in Table 1 above.]
- Meet Adequate Yearly Progress (AYP) as determined by the State of Vermont's Accountability System.
- Maintain the low number of playground write-ups and discipline referrals (less than or equal to 15 severe infractions and less than or equal to 65 playground write-ups annually.)
- Have an average attendance rate of 95% or greater.

For additional more focused goals, the following are the specific numeric goals for Grades 6 for the 2010-2011 school year; similarly specific goals exist for every grade level and subject in the schools:

- **Reading- Item Bank Assessments:**
 - 80% of students will score an 80% or higher on 3rd and 4th quarter literary and informational text assessments
- **Reading- McGraw-Hill Unit Assessments:**
 - 80% of students will score an 82% or higher on McGraw-Hill unit assessments (non-familiar text).
- **Reading- FNESU Language Arts Assessment (Literary and Informational text):**
 - First Quarter: 65% of students will attain a 3 or above.
 - Second Quarter: 75% of students will attain a 3 or above.
 - Third Quarter: 85% of students will attain a 3 or above.
 - Fourth Quarter: 90% of all students will attain a 3 or above, and 80% of students will make a gain of at least one point
- **Writing:**
 - 85% of students will score a 3 or better as assessed by the VT Dept. of Education writing rubrics on each of the following genres: Report, Procedure, Persuasive, Narrative, and Personal Essay.
 - 100% of students will maintain or exceed their previous year's score.
 - Response to Literary Text (FNESU) 80% of students will achieve a 3 or higher on the district rubric.
- **Math:**
 - September- 80% of students will get at least 21 correct
 - January- 90% of students will get at least 32 correct
 - April- 100% of students will get at least 43 correct
- **Math- Unit Tests:**
 - 85% of students will get an 82% or higher on each of the 4 end of unit tests.
- **Math- Portfolio:**

- 85% of students will score a 3 or higher on end of the year portfolio problems.

In sum, the school uses data, both to review past progress on student learning and each year to set higher specific, numeric goals linked to student learning – the goal is to have more progress on student learning for each subsequent academic year. *This represents a paradigm shift, from a focus on goals for teaching to a focus on goals for the results of teaching – student learning.*

The data covers the range of formative assessments, curriculum unit tests, portfolios and state and national student performance assessments, all data on student learning. Though the faculty said that none of these tests measure all of the learning of the students, they also said that these measurements should continue to rise as they implement their multiple and interrelated curriculum and instructional strategies. They also said that because of the requirement to boost the goal every year, they are under continuous pressure to do more, and that because so many students now perform at the proficient levels, they have no choice but to set goals for performance at the Proficient with Distinction level, and hence the student progress at that high level of achievement.

Finally, even though many of the performance measures pertain to different cohorts of students – this year’s sixth graders versus last years, the faculty stated they had no qualms about that measurement approach. Faculty believed that student performance was produced primarily by their curricular and instructional strategies, not by student demographics, so improvements should result for every cohort of students.

Curriculum and Instruction Program

The school's curriculum has changed and everyone attributes better performance to the effective implementation of the new curriculum. Faculty concluded in about 2005 that student performance in *reading* was too low. For reading, the school had been implementing a "guided reading with grade-leveled books" curriculum but decided to adopt a more research-based approach to reading, the MacMillan McGraw Hill Treasures program, which also was supported by Reading First. The school had become eligible for a year of Reading First assistance, which required it to adopt a research-based program, and also provided professional development, reading coaches and reading tutors for good implementation. When asked what the McGraw Hill program had that the former "guided reading" program did not, the response was:

- A K-8 scope and sequence, and
- Consistent emphasis on phonemic awareness, phonics (particularly in the early grades), vocabulary, comprehension and fluency.

I would add that not only Reading First but also the National Reading Panel recommended that these features be part of every strong reading program, specifically noting the attention to phonemic awareness and phonics, especially for schools with large portions of its students coming from families with low incomes.

The school sets aside 90 minutes a day for uninterrupted reading instruction for the K-6 program. In a prototypical week, reading classrooms introduce new stories or materials at the beginning of the week, including introduction of new vocabulary words before the story is read, and then introduce new reading and writing skills. Reading includes a mix of informational and fiction text. The reading curriculum includes differentiation for student work, so includes different activities for below average and

students, and challenges or enrichment for higher achievers. Over the week, teachers have several small group times, with students reading leveled books, many of which have decoding exercises that reinforce the phonics in the overall reading instructional materials. Several times a week, students also go to centers that emphasize reading, writing and spelling.

During small group and center work, classroom teachers circulate among the different groups providing instruction on specific skills. Moreover, also during these times, teachers are able to organize the slowest learners into small groups so the *teacher*, him-or herself, can provide specific one-to-one and small group tutoring assistance. Sometimes, some of the school's teaching assistants (some of whom have a BA degree and are trained in specific reading and math programs) work with the other groups, reflecting the school's philosophy that "the best teachers should give focused extra help to the students struggling the most." This philosophy is further reinforced because it was the former Reading First coach, which the school had for three years, who stayed at the school and was assigned to teach the first graders: "You put your strongest literacy teachers in the early grades so children get the most highly trained person for learning how to read."

Both the first grade and Kindergarten teacher use the Wilson-Fundations reading program. Wilson **Fundations** for K-3 is a phonological/phonemic awareness, phonics and spelling program for the general education classroom. It is not a complete reading program but appropriately used as a supplementary program. Often used as an intervention, Montgomery's kindergarten and first grade teacher uses Fundations as a supplementary reading program for all students to reinforce phonemic awareness,

phonics and spelling, thus complementing and strengthening these emphases in the McGraw Hill program.

The *writing* program is allocated time in addition to the 90 minutes for reading, and the school has students do a considerable amount of writing. The school addresses the six traits of writing; Grade K-3 teachers use the Writer's Workshop model. They emphasize the writing process: prewriting and planning, producing a rough draft, conferencing with another student, self check list and perhaps rewriting, conferencing with a teacher, revising the draft as a final produce, illustrating and publishing. The strategy is to build writing skills from grade to grade, beginning in Kindergarten.

The school began its approach to writing several years ago when the grade 1-2 team was trained in a writing strategy that had devolved from the Vermont Portfolio system. The faculty has all students write responses to various literature that they read, and insures over time that all writing skills included in the NECAP tests are incorporated into the school's writing curriculum. As a result, all students are taught all appropriate writing skills.

The school also decided several years ago that student performance in *mathematics* needed to improve, even though it had been improving somewhat. The school adopted the research-based *Bridges* Curriculum and allocated 90 minutes of uninterrupted instruction for math. According to its web site, [*Bridges in Mathematics*](#) is a full K-5 curriculum. Developed with initial support from the National Science Foundation, Bridges offers a unique blend of problem-solving and skill building in a clearly articulated program that moves through each grade level with common models, teaching strategies, and objectives. A Bridges classroom features a combination of

whole-group, small-group, and independent activities. Lessons incorporate increasingly complex visual models - seeing, touching, working with manipulatives, and sketching ideas - to create pictures in the mind's eye that helps learners invent, understand, and remember mathematical ideas. By encouraging students to explore, test, and justify their reasoning, the curriculum facilitates the development of mathematical thinking for students of all learning styles. Bridges also was designed for use in diverse settings, with its curriculum providing multiple access points allowing teachers to adapt to the needs, strengths, and interests of individual students.

Even though Bridges includes strong attention to math facts and algorithms, Montgomery's faculty decided it needed more to build automaticity of math facts so it also adopted Rocket Math. This program teaches math facts in 5-10 minutes of instruction each day, and is used by all teachers in the school.

For students in Grades 6-8, the school uses *MATHThematics*, and allocates 90 minutes a day for math instruction, 60 minutes for the regular class and the other 30 minutes for re-teaching and skills work. According to the program's website, *MATHThematics* is a complete three-year mathematics curriculum for students in grades 6 to 8. This program presents mathematics in relevant and meaningful contexts; each module focuses on a theme that extends throughout the module. The goals of this program are to help all students develop their abilities to reason logically, apply mathematical skills to real-life activities, communicate mathematically, and feel confident in using quantitative and spatial information to make decisions. Conceptual skills are developed and spiraled through grade 5. Major mathematical strands of the

program include: number concepts, measurement, probability, statistics, algebra, geometry, and discrete mathematics.

Montgomery also offers Algebra for its eighth graders; students desiring algebra take both the *MathThematics* program as well as an algebra class that meets for 45 minutes four days a week in the afternoon.

Over the past several years, the school aligned their curriculum from kindergarten to grade 8 through a continuum of concepts that spiral up from the very lowest grades to the very highest grades. They also worked to develop common words and descriptors to use during instruction so students hear the same language about various subject areas from grade 1 to grade 8.

The school also created a common *vision of effective instructional practice* as a complement to the strategies included in its reading, writing and mathematics curriculum. The faculty studied Robert Marzano's, *Classroom Instruction that Works*, reviewed other K-8 instructional practices that were needed such as reading and writing across the curriculum, and have continued to read books on instructional and school improvement which are discussed at faculty meetings. To reinforce this view of effective instruction, the principal has conducted "Classroom Walkthroughs" for several years, using a form structured to the school's point of view about instruction and then giving feedback to each teacher observed. About three years ago, the principal began to have other teachers accompany her doing the Classroom Walkthroughs, and asked each teacher to write a reflection of what the Walkthrough meant for his/her own classroom instruction. This year teachers are doing peer observations and/or Walkthroughs on their own; moreover, they are not just doing "random" Walkthroughs but often ask teachers they want to

observe to “model” or “demonstrate” a particular instructional practice the observing teacher wants to improve. For example, the first grade teacher asked the fourth grade teacher to model a lesson for Words Their Way, a developmental spelling program, so the first grade teacher could mirror that approach at the earlier grade.

This school believes that effective instruction linked to a research-based curriculum program is THE key to school success and continuously higher levels of student achievement. And the “test” of whether their curriculum and instructional program works is whether student performance rises; if performance does not rise, the faculty concludes that something is missing in the instructional program.

In addition, Montgomery does not just address the academic side of students; it addresses student character and learning habits as well. The school embraces the “responsive classroom” philosophy, which has the following tenets:

- The social curriculum is as important as the academic curriculum.
- How children learn is as important as what they learn.
- The greatest cognitive growth occurs through social interaction.
- There is a specific set of social skills children need to learn and practice in order to be successful academically and socially.
- Knowing the children we teach is as important as knowing the content we teach.
- Knowing the families of the children we teach is an important as knowing the children.
- How grownups at school work together to accomplish our mission is as important as our individual competence.

Following this philosophy helps propel the school to be a learning community of adults as well as students.

Finally, and as a subpart of this focus on the social side of learning, Montgomery developed a school wide approach to discipline and behavior codes for the lunchroom and playground. And to insure that everyone knew these behavior rules, at the beginning of the year, all faculty and students go out to recess together and review rules for behavior; the goal is for students to see all the faculty, not just their grade level teacher, as their teachers and for teachers to feel they are instructors and disciplinarians for all students.

Student Assessments

Over the years and continuing today, the school uses multiple assessments at different grade levels to track student progress, facilitate instructional change and plan interventions for students. The school has used the system from Fountas and Pinnell for ongoing student monitoring, had a quarterly progress assessment (sometimes called benchmark tests) provided by the district, used the Peabody assessment for reading, use common end-of-curriculum unit and end-of-course exams, and draws on informal formative assessments.

Several teachers claimed that they did not need a “formal” formative assessment program because the school already used multiple assessment instruments, which together with the informal queries that are a normal part of ongoing classroom instruction, result in all teachers knowing the performance of every student in every appropriate content area. Teachers were expected to act individually on this knowledge by providing extra help during center work, the school’s Reteach period (discussed below

under Interventions), and in the weekly meetings of the PLCs focused on the specific needs of each student.

Thus it would be safe to say that the multiple pieces of performance data the school uses, together with the PLCs, produced a situation in which each student's individual progress was monitored weekly with no need for a more formal formative assessment system. Several teachers stated that teachers in the school are expected to be "on top of all student needs both daily and weekly" and that this is accomplished both through the formal and informal performance, the "press" in the school for each teacher to insure every student's success, and the collaborative interactions over time focusing again on what was needed to help every student learn. In addition, teachers also mentioned the willingness of students to ask questions in class about concepts they did not understand (because they knew if they did not understand the materials they would likely have to do all assigned work over again).

Interventions

The school has a strong and structured approach to interventions – extra help programs to insure that all student achieve to a high level which is a 80 percent or more correct on assigned student work and performance in each curriculum unit, and to proficiency and above on state standards. To attain these goals, the school's first emphasizes core instruction; the objective, similar to that in the more formal definitions of Response to Intervention (RTI), is that core instruction is the first "instructional treatment" and must be high quality and as effective as possible. The new curriculum programs, ongoing training in the instructional strategies to implement them, and the core

focus of PLCs (discussed below) are targeted to making Tier 1 instruction as effective as possible.

As one teacher noted, the school has made a commitment to a curriculum continuum; every curriculum unit in every subject builds on what was previously taught and is designed to link to what comes next; teachers do not teach their own individualistic units. And the school wide emphasis on phonology and phonics in the early grades, with the McGraw Hill program that has that emphasis, supplemented with *Foundations*, is important in laying a solid core instructional foundation for learning how to read. Recall that for math, the school also uses Rocket Math in all classrooms as a supplement to the mathematics curriculum to emphasize the learning of all math skills, to produce automaticity and fluency for all math skills, in addition to the conceptual and problem solving focus of the math curriculum program. So the school decided to supplement the purchased reading and math programs with supplements designed to strengthen both teaching and learning in the fundamental reading and math knowledge and skills.

The second “extra help” strategy is additional assistance provided during a regular center or small group activities, with the teacher organizing such grouping so he or she can provide the most intensive help to the students with the thorniest academic challenges.

Third, Montgomery instituted a 30-minute period every day for additional interventions, called the ReTeach Period. This is a time during which regular teachers are able to provide extra help for struggling students, and to channel achieving students into enrichment activities. Often times during the ReTeach period, the reading and math

tutors as well as the special education teacher “push in” to classrooms to provide extra help to a very small group of students, or sometimes to an individual student.

Fourth, the school has a formal tutoring program in both reading and mathematics. For math tutoring, the tutor uses a program called VMath. VMath has 10 modules that cover core mathematical concepts for each year. Over the course of the year, the math tutor gives each student a pre-test for each module; if a student scores 7 or lower (on a scale of 1-10), the student then is given put into a pullout group that is given about 10 lessons, each 30 minutes in length, on that math concept. This continues for all the ten concepts in VMATH and is done every year. If the posttest is low, the math tutor would provide more review for the student, but so far no student has scored less than 8 on any posttest! Group size for this math intervention ranges from about two to six. These extra lessons consume about half of the math tutor’s time each day, with the other half spent “pushing in” to a regular teacher’s class either during small group time or the ReTeach period. VMath lessons are never given instead of the regular 90 minutes of math instructions; all VMath lessons are in addition to that time.

Reading tutoring is provided just for students in grades K-3. The reading tutor, who has a Reading Recovery background and is now retired, works from eight to noon, four days a week. Though Reading Recovery was designed to intervene only in first grade, and after a year of instruction provided by the regular kindergarten teacher, the reading tutor felt the broader tutoring strategy in this school was more powerful. She gets to know all new students in kindergarten, a year earlier than Reading Recovery. And she can begin to work even with struggling kindergarten students on phonological skills, hearing sounds and words, learning the letters and the sounds letters make, and beginning

to write. Tutoring sessions are generally one-to-one, and last for 20-25 minutes for kindergartners but 30 minutes for students in grades 1, 2 or 3 (although this year no third grader needs reading tutoring!). The reading tutor also does some small “push in” reading extra help both during small group and ReTeach time, but not every class every day.

Special education services come after all of these powerful core instruction and intervention practices. And the school believes that the incidence of students needing to get services through an IEP has dropped over the past several years as both the new reading and math programs have been implemented, as well as the ReTeach and tutoring programs. Indeed, research by others also found that such an approach to core instruction and intervention, that includes tutoring help for the kids struggling the most, can reduce the incidence of special education (usually reducing the students labeled learning disabled).

Special education services are provided only when the school’s Education Support Team recommends students for such services, and require them in an IEP. Special education services are provided in addition to all of the previous services, including the tutoring services, and are provided on a one-to-one, small group and coteaching basis by the special education teacher, and largely on a “push in” basis by an additional 3.5 FTE special education aides. The aides are trained in the Wilson Foundations program for reading and TouchMath, a multisensory math program for special education students.

In sum, the school offers a multiplicity of integrated extra-help services, with a special emphasis on services to bolster student learning in reading and mathematics.

Both teachers and the extra help staff stated that the extra help services are strongly aligned with the core curriculum, so reinforce the school's overall goals of having all students achieve to high levels.

Organization of Teacher Work

Montgomery Elementary School has worked hard to create a collaborative work culture. The goal has been to create an authentic school wide approach to all curriculum and instructional issues. To begin breaking up the egg crate approach to teacher work several years ago, the school created a "critical friends" system of people within the school. The objective was for various individuals to have "critical friends" giving them feedback on how they could improve. Critical friends meetings occurred after school; over time, critical friends began to specifically focus on developing a vertical alignment of the K-8 curriculum, identifying gaps in the school's curriculum vis a vis the Vermont content standards and the NECAP tests, and explicitly working to articulate the curriculum across all grade levels. Initially, critical friends was more an individualized initiative and independent of other school actions, but as "trust" in working together improved, the school moved into more complex and robust collaborative approaches to teacher work.

A few years after "critical friends" were launched, the principal attended a seminar offered by Richard DuFour on creating and implementing Professional Learning Communities (PLC); some teachers also participated in these seminars in subsequent years. The DuFour approach to PLCs is aggressive and ambitious; the idea is for groups of teachers to use student performance data, including formative assessment data, to continuously improve instruction, provide the best interventions for struggling students,

and to assess the impact of such efforts by measuring improvements in student performance – if student performance did not rise, then the PLC had gotten something wrong and needed to change its curriculum, instruction and intervention approaches. So the “measure” of the effectiveness of PLC work was whether student performance was positively impacted.

Initially, PLC meetings met less frequently; teachers were encouraged to meet when they could. But starting five years ago, PLC meetings became more formalized and scheduled three times a week for about 45 minutes. The goal was to continue the process of “taking the classroom walls” down that was launched with critical friends, and continue the process of building a school wide professional community.

The school adopted its version of this way to organize teachers by creating a K-2 PLC, a Grade 3-5 PLC, a Grade 6-8 PLC and a PLC including the special education teacher and the reading and math tutors. The notion was that these collaborative work groups were supposed to collaboratively develop the details of the K-2, 3-5, and 6-8 curriculum and instructional program, including common assessments and related interventions.

PLC meetings are structured. There is a PLC leader, an agenda, decisions are reached, notes are taken, and minutes are submitted to the principal. Some days the focus is on individual student needs; other days the focus is on curriculum and instructional issues. Most teachers see PLC time as a real benefit and often meet at times in addition to that scheduled, even though teachers in this school have lunch and recess duty, as well as bus duty before and after school. However, each teacher also has about four 45 minutes of individual plan time over the week in addition to the PLC time.

Professional Development

Nearly all teachers supported the school's approach to professional development, which systemically embeds training and courses into the school's ongoing professional learning community. This is reinforced by PLCs, staff meetings devoted to curriculum and instructional issues, and the other elements discussed above that engage all teachers in continuous instructional improvement. Professional development seems to be integrated into the ongoing work of the school. The principal meets with PLC leaders once a month and they collectively identify issues and needs that should be addressed. These issues are then addressed both in PLC meetings, for which there is pupil-free scheduled time every week, and at all staff meetings.

PLCs now are leading discussions at monthly faculty meetings,. This includes leading discussion of book chapters that are being studied or of other instructional improvement efforts, such as writing prompts and rubrics. In addition to the principal, teachers also engage in activities teaching their peers. As a result, both teachers and the principal learn new things together. Teachers also noted that PLCs focused a lot on teacher learning, particularly for the instructional strategies needed to have their students learn, and that subsequent all staff meetings focused on the same issues.

This year, moreover, PLCs and the entire staff are addressing the Common Reading and Math Standards that emerged nationally over the past several years, the gaps that might exist between these standards and the school's current curriculum, and the expertise faculty will need to respond positively when Vermont begins to implement those standards, and uses tests to measure student performance to them.

In sum, professional development is part of the overall school strategy towards curriculum and instructional improvement and developing a learning community. From the principal's perspective, it is about strategic professional development that has been embedded in the school over the past several years, with the goal of creating a "learning culture." And it should be clear from the case, that a learning culture for adults, as well as students, has been clearly established in Montgomery Elementary School. The faculty does not just read a book and move on. Teachers are asked to bring examples what the book suggests to share at subsequent staff meetings. As noted, teachers also do walkthroughs with the principal to look for evidence of the strategy being studied in classroom practice. This approach helps develop connections, reflection and habits of mind, similar to using strategies to help students with metacognition.

Culture of Achievement and Hard Work

Nearly every one identified the school's culture as key to its success. And the culture has many elements. First, it is a culture of high expectations for teachers and students; both are expected to work hard and to perform to high standards. And nearly everyone interviewed said this culture of hard work and high expectations was infectious – not all students initially come to the school with these traits but they attain them over time. The school acculturates all students into this community; by Grade 3 they all have high expectations for themselves, expect that they can learn to high levels, and know what to do to attain those levels of performance. Unlike many schools, particularly those with concentrations of students from families with lower incomes, "It is cool to work hard in this school, it is cool to do your best, and you are expected to do well."

Second, behavior in the school is exemplary; everyone holds students accountable, everywhere, and all the time. All teachers are consistent in behavior management and consequences for misbehavior.

Third, the school provides a “personalized” learning environment for every child. Every adult in this school knows every single child, regardless of the level, subject or class they teach. All teachers know all students, both academically and behaviorally.

Fourth, this is a hard working school. As several teachers noted, “There are no whiners at this school, whining is something done at home but not in this school.” Expectations for teacher work are high; every adult expects the highest performance from every other adult and ... “this spills over to the students who know adults have high expectations for all of them.”

Teacher work in this school requires effort; the curriculum and instructional strategies are multiple and seamlessly integrated; to be successful in this school a teacher must be exceptionally talented, equipped with an array of instructional and collaborative expertise, and be willing to work hard.

When one group of teachers was asked how they managed to do so much work, and so much integrated and complex work, one teacher answered by saying, “We are very smart.” Another newer teacher agreed and said, “Joining this faculty was like joining an Ivy League Faculty; these teachers are so smart and they have the array of expertise needed to be effective in this school.”

Fifth, this school has a professional and learning culture, first and foremost for teachers. Teachers mentioned study sessions and book sessions focused on effective instruction, such as Robert Marzano’s *Classroom Instruction that Works*, the DuFour

work on professional learning cultures, Mike Schmoker's book *Focus* on elevating the essential elements of school improvement, and soon Allan Odden's *Ten Strategies for Doubling Performance*, all of which are present in this school.

Finally, this school's culture embraces accountability and accepts responsibility for performance results. The school uses state, national and local instruments to measure student progress in learning, and expect the numbers to rise every year. When they don't, the faculty accepts the responsibility, and seeks to figure out how to improve their curriculum and instructional approaches. Indeed, each year every teacher sets student performance goals for their class. At the end of the year, each teacher reports – to an all faculty meeting – his or her students' results. And as one teacher noted, "You don't want to be the teacher who does not meet their goals!" So expectations are high, accountability is real and public, and everyone is expected to produce.

Teachers are accountable to the administration, which sets goals and directions and provides tools and structures to meet them, and in turn, teachers hold students accountable for behavior, hard work and performance and also provide students with multiple opportunities to attain that success.

Montgomery also is an "efficient" culture; PLCs meet and get work done. One teacher, who was new to the school, said that PLCs in Montgomery accomplish more in one meeting than the PLCs in the previous school did in 4-5 meetings. Put differently, everything in this school is organized, structured and managed, which results in efficiency and effectiveness of all operational elements

It should be noted that, except when asked about the demographics of their students, no one interviewed ever mentioned school demographics as a cause of or

impediment to student learning and performance. Even though 55-60 percent of students come from families with low incomes, the faculty expected all to learn to high levels, and never said that demographics might be a reason why some student could not or did not perform. This perspective was reinforced by the faculty's not caring that different grade level cohorts had to "beat" the performance of the previous cohort; there were no comments that, "Oh, this year performance is down because of these fourth (or any grade) graders." And the faculty's efforts resulted in all students performing – recall that the math tutor never had to give extra help after giving tutoring in VMath and the reading tutor had no student who needed reading tutoring in grade 3 this academic year.

Talent

Over the course of the interviews, it became obvious that educator talent was high in this school. The principal and all teachers were smart and capable: they read research, stayed abreast of best practices, worked continuously to improve instruction, expected everyone to know every student, seamlessly incorporated multiple strategies into the ongoing daily work of teaching, worked hard, and relentlessly sought to get every student up to a high level of achievement. One new teacher in the school stated, "Coming into this school was like joining an Ivy League faculty; teachers here are so smart, knowledgeable and expert at teaching. I have never been surrounded by so many expert educators." Educator talent was another reason why this school succeeded. These were not average educators; they were highly effective educators who did everything needed to get the job done, which was having all their students learn to high levels.

Summary

Montgomery PreK-8 School is exemplary. It has produced an impressive record of student performance, showing consistent gains over the past six years. The performance gains include high percentages of student performing at the Proficient with distinction level on the New England Common Assessment tests (NECAP), sometimes with more than 50 percent performing at these high levels. Such high levels of performance including the significant gains in performance over the past six years, are unusual for a school with over 50 percent of students eligible for free or reduced price lunch, which makes the performance gains all the more noteworthy.

How did these changes occur? The above description tells the story. But a PowerPoint developed by the principal also tells the story. What do we need to do to increase student performance, asks the first PowerPoint slide? The answer is three fold:

- Develop excellence in teaching – focus on improving teaching so all students learn more
- Use data – practice crystal clear curriculum alignment, assessment and data analysis
- Accountability and motivation – focus on student motivation, push and support.

And the school implemented these three strategies through the ongoing work of structured and effective Professional Learning Communities (PLC). Having PLCs use data to continuously improve a school wide view of effective instructional practice, combined with research-based curriculum programs in both reading and math; a smart, talented and hardworking staff; and high expectations for both student and adult work, produced impressive student performance gains and high levels of student performance

and for all students – those from middle class backgrounds and those from less advantaged backgrounds.

Montgomery Elementary School shows how high expectations, a solid and research-based curriculum, emphasizing a systemic approach to effective instruction, using data to continuously improve instruction, providing an integrated set of intervention strategies, relentless effort by talented and capable teachers working in collaborative groups to continuously improve instructional practice to get the job done, and strong principal leadership and management –not just money – are the pathways to high performance.