

AN EVALUATION OF VERMONT'S EDUCATION FINANCE SYSTEM



White River School Case Study

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White River School

White River Junction, Vermont

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White River School is located in White River Junction, Vermont, right across the border and river from Lebanon, New Hampshire, and within five miles of Hanover, New Hampshire, which contains Dartmouth University and its large Medical Center are located., White River Junction is primarily a working class community with above average unemployment rates for the “upper valley” region of Vermont and New Hampshire (not including Hanover). The community has significant poverty including families living in rural poverty and several homeless shelters. White River workers are mostly employed as carpenters, plumbers, electricians and builders, as well as sales clerks in nearby department stores in the upper valley broader community; a few have jobs in a small number of nearby factories. Some work in mainly classified jobs at the Dartmouth Health Medical Center. Many are seasonal workers who get laid off in the winter.

White River School is one of three elementary schools in the Hartford School District, which also has a middle and a high school. It has a preK through Grade 5 enrollment of 232 that includes 28 students in preschool. The preschool program is half day with 14 students in each session. The K-5 portion of the school enrolls 214 students, averaging 35 students per Grade K-5. There are two classroom sections for each grade, with grade level class sizes average about 17 students. Close to half the students are eligible for free and reduced price lunch. In part because about 11 percent of the students live in homeless shelters, and another 10-15 percent are from transient families (enrolling

and leaving schools several times during an academic year), the school has a relatively high percentage of students with an identified disability – 26 percent at the end of the 2011 school year. The school day runs from 8:00 am to 2:45 pm. The Hartford district, which includes White River, spent approximately \$15,114 per pupil in 2009 (the last year for which we have data for all districts) for current instructional expenditures minus transportation, which was above the state average of \$13,923.

School performance has been excellent as the data in Table 1 show. The numbers show a strong consistent rise in student performance on NECAP exams over the six years from 2005 to the 2010 school year. But the most important finding from the data in Table 1 is the overall high level of performance – unusual for a school with a high percentage of students from poverty, homeless and transient families. In mathematics, the percent of Grade 3-5 students’ performing at the Proficient (meets standards) or above levels rose from 57 percent in 2005 to 75 percent in 2010, with the percent at the Proficient with Distinction levels almost doubling from 15 percent to 25 percent. Paralleling this rise, Grade 3-5 student performance in reading also rose significantly, from 64 percent performing at the Proficient or higher levels in 2005 to 76 percent in 2010, with the percent at the Proficient with Distinction levels more than doubling from 11 percent to 28 percent. Writing scores have had a more varied track record, but in 2010, 67 percent of students in Grade 5 performed at the Proficient or above levels with 23 percent at the Proficient with Distinction level. And science performance for students in Grade 4 hit 73 percent at Proficient and above in 2010, with 9 percent at the Proficient with Distinction

levels. These overall high levels of performance and large increases over the past six years are indeed impressive.

This case is the story about how White River School produced these impressive results. It was not from high spending, as the district spends about the state average. It was not from high teacher salaries. It was not from parent involvement though parents are welcome at the school and the school reaches out to parents and encourages their involvement. These results emerged primarily from the hard, professional work of teachers and an unusual cadre of paraprofessionals, implementing a solid curriculum program with effective instructional practices, complemented by an integrated and comprehensive array of interventions, and a school culture focused on student learning results.

Table 1

NECAP Scores for White River PreK-5 School, 2005-2010

Subject and Performance	2005 NECAP	2006 NECAP	2007 NECAP	2008 NECAP	2009 NECAP	2010 NECAP
Mathematics	Grades 3-5					
Proficient and Above	57%	59%	51%	70%	67%	75%
Proficient with Distinction	15%	22%	10%	19%	23%	25%
Reading	Grades 3-5					
Proficient and Above	64%	64%	56%	67%	65%	76%
Proficient with Distinction	11%	14%	8%	26%	17%	28%
Writing	Grade 5					
Proficient and Above	56%	50%	21%	36%	--	67%
Proficient with Distinction	26%	0%	7%	20%	--	23%

Science	Grade 4					
Proficient and Above				49%	62%	73%
Proficient with Distinction				3%	0%	9%

The case is based on written documents as well as interviews with the principal and nearly all certified staff in mid-November 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 ten sections: School Staff, Goals, Curriculum and Instruction Program, Interventions, Student Assessments, Organization of Teacher Work, Professional Development, School Culture, Talent, and a Summary.

The Staff

White River School has 26.1 certified staff positions and 6 paraprofessional staff for the K-5 program that include:

- 1 Principal, and 1 school secretary
- 0.5 FTE Teacher leader positions, which is one-third of three individuals, 0.5 FTE for each of reading, math and science, and shared among the three elementary schools
- 12 FTE K-Grade 5 teachers, two for each grade level
- 3.0 FTE elective “related arts” subject teacher positions, including 0.8 PE, 0.5 art, 1.0 library, 0.2 band and 0.5 music
- 2 Title I teachers and 1 Title I paraprofessional
- 5 FTE special education teacher positions, including 1 speech/language teacher and 5.0 special education paraprofessionals

- 2.6 FTE pupil support positions, including 1.0 guidance counselor, 0.6 mental health counselor, and 1.0 school nurse
- (1 Preschool teacher and 1 preschool paraprofessional)

The above figures exclude a Medicaid Clerk and about 5 paraprofessional positions who work mainly one-one with students with severe disabilities.

Class sizes average about 17 in each grade but can range from 16 to 18. The elective related arts teacher positions are in an appropriate ratio to the 12 core grade level teacher positions, especially given that the librarian is included in this group and instructs classes of students, thus providing teachers with pupil free time. The substantial special education staff reflect the high incidence of students identified with a disability.

Goals

White River School has five major goals for the 2011-2012 school year:

- Monitor Students' academic growth
- Provide timely instruction to address academic and behavioral needs
- Share expertise with each other
- Continuously improve communication about students' needs and staff's needs
- Reduce the "outside pressure" and remain focused on our students and each other.

These overall goals are supplemented by more specific goals, articulated in the school's Action Plan, related to improvements in student learning as measured by NECAP for each of the core subjects:

- For **reading**, to improve all students' comprehension skills: informational text, initial understanding, analysis, interpretation and fluency, with five measurable objectives tracked by scores on NECAP and monitoring reading progress three

times a year using multiple measures including the Fountas and Pinnell Reading Benchmark assessments, NECAP released items, and items in the Vermont Item Bank (an online system of items of reading, writing and math assessments that align with the VT state learning standards).

- For **mathematics**, identify essential math concepts in each classroom for each class, and use multiple assessments to measure ongoing student performance in math to determine which students need math interventions, again using multiple assessments including the Vermont math standards, released NECAP items, the Vermont Item Bank Assessment resources and the assessments in the Bridges math program. In September 2011 the school added the Primary Number Observation Assessment (PNOA) for some K-2 learners as well as Ongoing Assessment Project (OGAP) Formative Assessments for Grades 3-5, each developed in Vermont through the Vermont Math Partnership.
- For **writing**, all students will improve their writing skills with a specific focus on students in poverty who have not met standards in writing, and measured through showing proficiency to the Vermont writing standards, the Hartford School District Portfolio Assessments, NECAP released items and Vermont Item Bank Assessment resources.
- For **science**, improve student's proficiency in science inquiry specifically students' written responses.
- For **motivation**, to increase student motivation to be an engaged learner and to follow the schools Behavior Guidelines.

- For **students with disabilities**, to insure that each one received a free and appropriate education.

For each of these goals, the Action Plan includes strategies, ways to measure strategy implementation, the person(s) responsible for the goal, and needed resources. In addition, each grade level team creates goals, assessed by gains in student performance, for that grade level for each of the above six areas. The grade level action plans reflect needs based on the data wall (discussed below).

The focus on reading comprehension, math concepts, and science inquiry derive from analyses of the students' previous NECAP (and other assessment) scores identifying those areas as places where improved student performance is needed.

As a part of the overall strategy to meet these goals, the staff in June and Fall 2011 reviewed performance data for all students to determine whether students were performing at a 1, 2, 3 or 4 level of performance, in terms of the Vermont Grade Expectations which are aligned with NECAP. Note cards for all students (without names) were placed in the appropriate performance category for each of reading and math, on a Data Wall in the student's cafeteria. The wall shows the status of student performance at the beginning of the school year. The objective of the Data Wall is for performance 4 level students to stay performing at that level, to move significant portions of performance 3 level students to performance 4, to provide appropriate interventions to performance 2 level students so they can move their performance forward with the hope that many would move into performance level 3, and to provide even additional assistance for performance level 1 students, most of who already have an IEP. Periodically over the year, the faculty will re-score all students and move the

performance level note cards appropriately, in this way making a public show of performance improvements over the course of the school year. Though the prime purpose of the data wall is to provide a public visual of where the school's students are in terms of Vermont Grade Expectation Standards.

Curriculum and Instruction Program

The curriculum and instruction program for the school is unique, particularly the reading program. From the district, the school has a curriculum that is aligned with the Vermont Grade Level Expectations across all content areas, and disaggregated into the specific concepts, knowledge and skills that must be taught during the school year for each content area and each grade level in the school.

Faculty stated that a hallmark of the school's curriculum was consistency. Consistency was defined as teaching to this detailed set of content standards that were clearly articulated across grade levels. To teach this content in mathematics, the school adopted a common mathematics curriculum program – *Bridges* math, which teachers are expected to implement fully and with fidelity.

But the school did not adopt a common reading curriculum program. The **reading program** also is NOT “balanced literacy” with leveled books. The expectation is that each teacher implements a reading program that appropriately stresses phonemic awareness and phonics in the primary grades, and vocabulary, spelling, reading comprehension and reading fluency in all grades. Each teacher is expected to craft a yearlong reading program that comprehensively and grade appropriately covers all the key elements that would be included in a reading program – phonics, spelling, vocabulary, leveled and decoding books, comprehension, and reading fluency. Each

teacher, and sometimes each pair of teachers, implements their own unique reading program – with the test of the effectiveness of their program being gains on multiple measures of student performance in reading.

When asked why the school hadn't adopted a research-based reading program, such as the McGraw Hill Macmillan series, the response was that the range of student reading performance in the various classes was so wide that no one program would work. Faculty felt that even programs with "tracks" for below average, average and greater than average performing students (like McGraw Hill) were not flexible enough for the wide spread of student reading levels in their classes (with even the slower paced activities too fast for some students). Reading levels are so diverse in part because significant portions of the student body come from families in poverty as well as homeless shelters and transient families and thus have had their academic learning often interrupted (though in discussing the reading program, teachers never made reference to student demographics). Their point was that every teacher had a wide range of students in terms of reading knowledge and had to tailor a program that met the individual needs of each student, whatever their extant reading level. Each teacher had to be nimble, flexible and able to tailor instruction each day to the unique needs of each child.

To effectively implement a reading program in this manner requires expert teachers in every classroom. Indeed, the teacher has to be "more expert" than any commercially available reading program! So first the school only hires teachers who are well trained in how to teach elementary reading. Further, over the past 10-15 years, the school has sought to develop *every* teacher into an expert and knowledgeable reading teacher through ongoing training every year. Several teachers have been trained in

Orton-Gillingham, which is a highly regarded one-to-one tutoring program in phonics used most often by reading experts for students with reading disabilities. Many teachers have earned Master's degrees in reading. There has been professional development in all aspects of teaching reading, from phonics to spelling, vocabulary, reading comprehension and writing, and the training continues today with the Fountas and Pinnell Benchmark Assessment and Leveled Literacy Intervention programs. Several teachers have learned to take the diagnostic student "running reading records" and the school has experts in Reading Recovery. The faculty has been trained in "guided groups" for teaching reading, and in individual reading tutoring approaches. The faculty also understands that the K-3 reading program should be designed to teach students how to read, and the Grades 3-5 reading program designed to teach students how to read to learn.

Put a different way, the school expects each teacher to have and acquire a comprehensive set of reading knowledge, skills, expertise and tools beyond what would be included in any purchased reading program, and to be able to deploy that reading expertise to the wide range of unique needs of the students in each of their classes. This is a robust expectation but student performance in reading suggests the school is having considerable success with this approach.

When the school hires a new teacher, they assess where the individual was trained to determine whether the training meet the school's standards for what teachers need to know and be able to do to effectively teach reading. The school also reviews where the teacher had done student teaching, internships and, if experienced, where they had worked. The goal is to determine whether the applicant has sufficient expertise in teaching reading to meet the standards and expectations to be effective in White River

School. Of course, once hired, the new teacher becomes part of the school's PLC culture which helps in developing even more skills. But the point is the school is very selective in who it considers to hire. It should also be noted that teaching positions in this school are desirable; last year, there were 150 applicants for one new Kindergarten teacher position.

Throughout the year, all teachers use the Fountas and Pinnell Benchmark Assessment program to monitor student progress in multiple skill areas in reading. This Benchmark Assessment program is a one-on-one, comprehensive assessment to determine independent and instructional reading levels and for placing students into appropriate reading groups and interventions. Recording Forms guide teachers through a Reading Record that reveals a wealth of information about the reader, including the reader's accuracy and self-corrections, comprehension, and fluency. A Comprehension Conversation is part of the assessment protocol at every level and provides details about a reader's thinking within, beyond, and about the text. Optional assessments allow teachers to gather further details when necessary to more precisely pinpoint a reader's needs. So across the unique approaches to reading in each grade, there is a robust, comprehensive, detailed and common approach to monitoring student progress and using the resulting data to design classroom instruction as well as target students for interventions.

In terms of the reading approach of each grade level, the two kindergarten teachers use the Fountas and Pinell Phonics program as one central piece of their curriculum program to insure that phonemic awareness and phonics are addressed in systemic ways in both kindergarten classrooms. The kindergarten teachers organize their classrooms in the same way. In the fall, there are 30 minute blocks of reading

instruction, with 15 minutes for the whole class and then individual or small group activities. In the spring, the teachers create five groups of students by reading level in their classes (of about 17), so each group is very small – two to four students. During reading groups, there usually is another adult in the room, often a paraprofessional but sometimes a Title I reading teacher or a special education teacher. The teacher makes sure that she spends 30 minutes with each group on at least one day over the course of a week; during that time, students are in groups working on things they already know, and monitored or further instruction by the other adults

The four Grade 1 and 2 teachers loop, i.e., the teacher keeps the same group of students from Grade 1 to Grade 2; thus, the work of getting to know each individual student academically (as well as their family) carries over into the second grade. These teachers work on each of phonics and word study for 30 minutes four to five days a week, in addition to another 30-60 minutes of reading and writing. One grade 1 teacher uses the Reading Workshop approach: a 5-10 minute lesson, followed by students' reading and practicing the skill for 20-25 minutes with the teacher circulating among groups, then students sharing with the rest of the class. Another teacher has reading stations with 5 reading groups of 2-3 students each, with the groups changing periodically. The stations are divided into 15 minute segments, with silent reading, reading with the teacher, and working on words and other reading skills. Often in both Grade 1 and 2 classrooms, there will be other adults in the room during these reading times, including regular paraprofessionals, the Title I paraprofessional or the special education teachers working with specific groups of students. The classes are organized to provide each student and each group of students with reading instruction targeted to their specific reading needs.

In Grade 3, the teachers differentiate instruction according to student performance on the Fountas and Pinnell assessment system, which is substantively aligned with the concepts and skills in the district's curriculum standards for grade 3. So these teachers said they taught to the concepts and skills in the curriculum standards and monitored progress with multiple formative assessment data tracking individual student performance. The Grade 3 teachers also noted that students in this grade are beginning to read for content knowledge so reading classes are starting to read social studies and science books, and to learn how to read these books not only fluently but also for meaning and information. The reading curriculum also includes the vocabulary needed for these science and social studies books. Assessment data also showed that many students had difficulty reading beyond the text, so the Grade 3 teachers are helping students make connections to the broader world – what kinds of questions scientists ask, what are the key issues in social studies and history, etc.

The two fourth grade teachers organize their classes in similar ways. They teach reading at the same time. They form reading groups inside their 16-17 student classes, usually forming four groups. They structure the instruction so all groups are working on the same skills, but are using different books tailored to their reading levels. These teachers said that even the lowest performing readers have average intelligence so can handle the concepts, knowledge and skills in the overall reading program, but often need specific extra help on decoding skills or other identified foundational reading skills. The major “problem” for these students is that they are not able to read fluently, because they are missing some basic reading skills. During reading groups, there usually are one or more other adults in the room working with various groups, and sometimes pull outs for

students with IEPs, so students rarely go more than 20 minutes without an adult monitoring their work or providing instruction. The classroom teacher will take the “toughest” reading group, thus putting the most expert person in the classroom with the students having the most challenging reading problems. Students engage in reading and writing independently often during the week. The teacher also sets personal reading goals for every student so in small groups students are working on targeted skills on which they need practice – looking up words they do not know when reading a book, checking for understanding the plot, and so on.

Sometimes the entire class reads the same book, and then goes through several reading skills and analyses with the same book, including whole group work, desk work, small group work, reporting out and writing responses to the text. Currently the Grade 4 classes are reading historical fiction that addresses problems and issues families faced in years past with one goal being to apply the ideas in the book to the present. Further, each teacher reads with every student individually at least once every week, giving them another opportunity to monitor reading progress and note issues that present themselves.

The two fifth grade classes organize themselves differently but follow the same general approach, and use a combination of fiction and content books. The focus of the reading program in Grade 5 is questioning, reading comprehension, and reading fluency developed through a myriad of approaches and activities. A specific emphasis this year is inference – making an assertion about the text that is read and supporting the assertion with evidence. This focus is an extension of a similar focus in the fourth grade, where teachers structure this reading skill by using the Report Form and Story Form from the Language Circle of Project Read. Grade 5 reading also extends concepts students need in

reading fiction – theme, characters, setting, plot, conflicts, etc. to develop skills students can use in reading all fiction literature. The teachers also have reading groups during which students are reading books of their choice and at their reading level. Students also have assignments to read on their own at home every night. The overall goal is to have a wide variety of reading activities designed to get all students to meet the Grade 5 reading standards.

There is considerable time spent on content reading in Grade 5. In addition to the 60 minutes for reading in the morning, the teachers will have a 30-45 minute block in the afternoon reading books in science and social studies – learning how to read to learn content.

In addition the reading instruction in all classes, the school provides multiple reading interventions, all discussed in the next section.

White River School has addressed **writing** with a special emphasis in past years. Several years ago the staff realized that consistent issues emerged as data showed students were not meeting the Vermont writing standards. The staff collectively reflected on this finding and asked for and received professional development in writing. For 3-4 years the faculty worked with Joey Hawkins and Dianne Leddy, Vermont experts who had developed a Writing for Understanding program. They then researched different writing programs and finally adopted Framing Your Thoughts, which is derived from Project Read.

Framing Your Thoughts is a scope and sequence for teaching writing. In the Framing Your Thoughts curriculum, the initial focus is on writing good sentences; the parts of a sentence are represented by graphic symbols that allow students to tactilely

manipulate sentence design as they express thoughts and ideas in writing. Research shows that knowledge, understanding, and analysis of sentence structure are powerful tools in increasing reading comprehension, fluency, and decoding text through context clues. This program leads students from understanding the function of sentence parts to standard labels of parts of speech – and thus grammar. The concepts and skills are taught sequentially and logically. The process teaches correct sentence structure and punctuation using the students’ own expressive language. In the upper elementary grades, the Framing Your Thoughts program begins the process of transferring Sentence Structure to paragraph development. The curriculum provides direct instruction to shape five types of paragraphs. Each paragraph type is taught with its unique graphic organizer and skill instruction. The strength of this process is that students not only learn the standard paragraph construction, but also master the ingredients needed to develop a specific type of paragraph. A strong editing piece teaches students to write with responsible independence.

The writing curriculum is quite ambitious. The Hartford School District requires several types of writing samples at each grade level – response to text, narrative, reports, procedure, persuasive, etc.

Kindergarten teachers also use a program called Handwriting Without Tears, to teach students how to write letters; this activity is based on research concluding that there is a motor pathway of writing letters to understanding phonics, so handwriting reinforces the sound and writing of letters, and the connection of the sound to the letter. K-2 teachers have a common alphabet chart to teach letter sounds, so students get consistent instruction for the first three grades. This is reinforced and followed by Framing Your

Thoughts, which also stresses grammar. As noted earlier, the upper grades use Report Form and Story Form to help structure writing activities. In addition, teachers use something called the “painted paragraph,” which emphasizes the paragraph as a topic sentence, supporting sentences and a summary sentence. This approach is then applied to a “painted essay” which has several paragraphs, with a thesis paragraph, supporting paragraphs with evidence, and a summary paragraph.

The Hartford School District also decided several years ago that student performance in *mathematics* needed to improve, and that this required a change their math curriculum. The school then adopted the research-based Bridges Curriculum and allocates a minimum of 75 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.

Both the principal and teachers liked Bridges because it takes into account the developmental levels of students and is linked to the curriculum standards of the National Council of Teachers of Mathematics. Further, several Vermont teachers were involved in developing the Bridges math program. The faculty liked the Bridges math spiraling of math concepts up through the curriculum and its somewhat slower pace than Everyday Math, thus being more appropriate for this school's students.

Bridges covers numbers and operations, patterns, as well as algebraic thinking, and also has many applied emphases that families and community leaders value, like time and money. Another important element is that Bridges includes multiple visual models, and many manipulatives, so students have concrete materials to review if they forget something. Further, Bridges also includes materials on what educators call "content specific pedagogy," i.e., the math concepts teachers need in order to understand more fully the math that is being taught in order to be able to reinforce students' mathematical thinking during classroom discourse. Finally, Bridges has an excellent web site which now includes lessons for elements that are under emphasized in the program (see below discussion).

Bridges also includes a daily Math Corner activity that focuses on practicing math skills such as arithmetic calculations, patterns, weather, calendar, graphing, and so on; this 30 minute daily skill practice helps students remember the skills needed to engage in the broader math concepts.

After adoption, the teachers received extensive professional development to help insure effective implementation. Grade level teachers took content courses focused on the math and student's mathematic thinking for that grade level. The training covered

both an understanding of elementary school mathematics – the *mathematics* involved and not just arithmetic – and how to teach such mathematics, which meant learning about elementary student perceptions of math. The district participated in the well known Vermont Math Partnership; the district had several teachers heavily involved in that program including, for White River School, the Math Teacher Leader, a fourth grade teacher and the current principal, and the school is still is still involved in the Vermont Mathematics Initiative through the University of Vermont.

Teachers implement the entire Bridges program with fidelity. Teachers teach all the curriculum units, use the formative assessments that are included with each curriculum unit, and use the common end-of-unit tests. In fact, teachers at each grade level must provide a yearlong schedule to the principal that shows how and when they will teach each curriculum unit in the program. Indeed, teachers must provide this kind of annual “curriculum map” to the principal for all content areas.

Most math instruction over the day includes 60 minutes of math class and then, often at another time, 30 minutes for Math Corner. In the 60 minute block, there often is a lesson, students then work sometimes on their own and sometimes in groups with just the teacher circulating among the children, and then children report back to the class what they found. So social discourse is an essential part of the math instruction.

As noted above, over time teachers recognized that Bridges was not strong on every dimension. The school felt it needed more than just the end of curriculum unit assessments as some children would do well on the unit test but struggle in the next unit because they were missing some more fundamental math skill or concept. So in 2009-10, White River adopted the Primary Number Observation Assessment (PNOA), to assess

students in grades K-2 and beginning of year third graders. PNOA is a one-to-one administered an assessment provided by the Vermont Department of Education that assesses basic concepts and skills in math, from arithmetic skills to core math concepts like number sense and basic numeracy. The school also adopted the Ongoing Assessment Project (OGAP) Formative Assessments for math for Grades 3-5. Both PNOA and OGAP were developed in Vermont through the Vermont Math Partnership. These assessments help teachers target extra help during math groups as well as the Math Corner. Not surprising, the staff discovered that students needed more practice to develop automaticity of arithmetic facts, and more instruction on numeracy and the number line, the conceptual element which undergirds conceptual understand of what numbers are and thus what adding and subtracting are – mathematically.

Interventions

White River School has a systemic and comprehensive approach to interventions, and talks about them in the Response to Intervention (RTI) framework. RTI holds that core instruction, including extra help within the regular classroom, is Tier 1 and that Tier 1 instruction needs to be of the highest possible quality in order for any additional help or intervention to be effective. Thus, at White River, the first interventions are provided during regular reading, writing and math groups, many of which have another adult in the room at that time.

Reading interventions are heavily based on data: how students did on the Fountas and Pinnell benchmark assessments, and the other more informal reading assessments. These data structure both in class groupings and then the need for additional Tier 2 interventions, of which there are several.

Grade 1 students struggling in reading receive Reading Recovery tutoring in a one-to-one format. The school has 2 Reading Recovery tutors – the Title I reading teachers – each of whom can tutor 4 students at a time, with the tutoring lasting for a semester. So up to 16 first grade students can receive Reading Recovery tutoring over the course of a year. The Title I teachers also provide additional tutoring for students who need it in Grades 2 and 3.

This year, the school has adopted the Leveled Literacy Intervention, which will be implemented during the new intervention block at the end of the day. The *Fountas & Pinnell Leveled Literacy Intervention System* (LLI) is a small-group, supplementary intervention program designed to help teachers provide powerful, daily, small-group instruction for the lowest achieving children in the early grades. Lessons progress from beginning reading in Kindergarten or Grade 1 to beginning reading for Grade 3. LLI is designed to be used with small groups of young children who need intensive support to achieve grade-level competency. English language learners can also benefit from LLI. Each LLI lesson provides specific suggestions for supporting English language learners. White River School uses LLI for Grades K-2 and organizes the students into groups of three. Each teacher can identify a maximum of six students who might need LLI. The school trained three teachers to provide the LLI instruction.

To provide additional support for students' learning both math facts and math concepts, this year the school scheduled an intervention block in the afternoon for 30-45 minutes at the end of the day for students in grades K-2. Teachers of those grades can identify up to 5 students who need this math intervention, which is provided by the two

Title I teachers and Title I paraprofessional. Over the past year and continuing this year, the school has trained the two Title I teachers and Title I paraprofessional in mathematics interventions and instructional strategies for helping students struggling with math. The math interventions are organized into 6 week time periods, each beginning with a pretest and ending with a post test. Students are organized with respect to performance on the PNOA assessment, as well as all other data sources including Bridges Math, classroom observations and other formative assessments.

These more structured approaches augment the push-in assistance provided in many reading and math classes by two Title I teachers, one Title I paraprofessional, and five special education teachers and five special education aides, two supported by local funds. The special education staff also provide Tier 3 intervention throughout the day, sometimes during regular class periods and sometimes in pull out formats. The Title I and special education staff and their work is seamlessly integrated into the overall operation of the instructional program.

Student Assessments

As mentioned throughout the above discussion, White River School uses multiple kinds of student performance data to assess student achievement, to review historical trends, identify problems and plan new actions. The school uses the annual NECAP results, released items from NECAP for formative assessments, the Fountas and Pinnell Reading Benchmarks given three times a year, the PNOA and OGAP math assessments, the Vermont assessment bank, the formative assessments in the Bridges curriculum, and other diagnostic and informal teacher assessments. The school uses these data to track student performance through various levels of performance on the Data Wall in the

student cafeteria, to design instruction and in class extra help, and to slot students into various interventions.

Organization of Teacher Work

The school has scheduled substantial time for both individual and collaborative teacher work. All teachers, including the related art teachers, have a prep time every day; the prep period for the related arts teachers is from 8:00 to 8:40. In addition, each grade level teacher team has a common pupil free time every day, except for the fourth grade teachers who have common pupil free time only four days.

And nearly all teachers said that they collaborated in many, many ways over the course of a week and school year. Certainly teachers engaged in collaborative work in their grade level teams, especially the grade 1-2 team that loops so collaboration for them is essentially mandatory. Further, each grade level needs to develop a grade level action plan for improvement in student performance in each content area, which is their primary focus for collaboration during common planning time. The grade level action plans, moreover, focus on boosting student performance in specific ways – inquiry in science, problem solving in math, as well as moving students from category to category on the Data Wall.

The teachers also can use their pupil-free time to meet with the Teacher Leaders in math, reading and science for three major purposes: to improve their core instruction, to get help in crafting in class interventions, and to work on their goals from the individual professional growth plans., Many of the professional development goals cut across grade levels so if the goal is on science, the appropriate teachers would meet with the science teacher leader.

Teachers also use these times during the day to talk with and collaborate with teachers outside of their grade level. In fact, the teachers said there is much collaboration and communication that goes far beyond formally scheduled times; teachers talk and collaborate with each other before and after school (and most work after school on a voluntary basis), during the weekends (as many are working at the school on weekends), through emails, phone calls and so on. Sometimes the school hires substitutes so teachers have pupil free time to meet; that approach has been used this year for working on the professional growth plan goals.

So it could be argued – and several teachers did so argue – that collaboration at White River is organic; teachers know what questions to ask themselves and other teachers and find time to collaboratively seek answers to those questions. Collaborative teacher work at this school “just flows.” Teachers know what is taught in the grade before them and in the grade after, and therefore know what they need to teach. So they just find the time for collaboration to address problems, issues and needs that might emerge for the school’s highly articulated curriculum programs.

Professional Development

It should be clear that this Hartford School District has invested heavily in professional development over the past decade and continues to invest heavily today. The Hartford School District not only pays for multiple trainings for all teachers in reading and mathematics, but also pays for training for groups of teachers in specific areas – Orton Gillingham, Reading Recovery, the Leveled Literacy Intervention, math interventions, etc. The district will also pay for 6 units of courses in nearby universities, which has helped nearly every teacher to earn a Master’s degree, many in reading. In

short, the school has and continues to invest significant resources in professional development every year.

The Hartford School District has three half time teacher leaders, one each in reading, math and science. The primary job of these teacher leaders is to work with grade level teams as well as “professional growth plan” teams on specific issues related to improving instructional practice. Each year, every teacher must propose and have the principal approve a professional growth plan. Nearly all the goals in such plans address improving student performance in specific areas. For example, one Grade 2 teacher’s goal is to improve all students’ comprehension skills including informational text, initial understanding and analysis, interpretation and fluency, with improvement shown on the Fountas and Pinnell Benchmark assessments. A fourth grade teacher goal is to improve students’ math problem solving skills and computation; the measurement of success is that 90 percent of the class will score at or above standard on the Bridges Unit tests, and students will demonstrate increasing understanding of equality and associative, commutative and distributive properties when working with numbers. So the professional growth goals are ambitious, specific and measurable. Further, teachers have goals in similar areas form collaborative work groups and then work together and with the Teacher Leader to develop instructional practices that will help them attain the goals.

Finally, the district also has a teacher mentoring program for teachers new to the Hartford School District, which is supported by a district Mentor Teacher Leader, who also happens to be the music teacher at White River School. All mentor teachers receive specific training in how to do mentoring, and meet with the Mentor Teacher Leader during the year to identify issues and frame solutions. The Mentor Teacher Leader is also

sent to trainings for such individuals. Each new teacher receives ongoing help from a mentor during the entire course of their first year at the district and school.

Culture of Achievement and Hard Work

Though all of the above “technical” elements are critical to the school’s effectiveness, all strategies are executed within a robust school culture that has several elements:

- Consistent high expectations for academics and behavior. All students, regardless of family context, are expected to learn to standards and abide by the school’s behavior codes. Achieving to standards is the minimum goal for all students and teachers expect each student to meet that performance benchmark. In articulating these high expectations, no teacher said it was difficult to achieve because the school enrolled many children from blue collar, poverty income, homeless or transient families. Whatever the situation of the student, the school expects them to learn and behave and provides the structures, instruction and extra supports to make that happen.
 - Recognizing that many children have rather chaotic lives, the school seeks to provide a structure to the day with routines, behavior codes, clear classroom processes, etc. Further, to insure each child knows the routines, the school provides direct instruction for all of them, e.g., reading routines in classrooms, washing hands, behavior inside and outside the classroom, during recess, in hallways and so on. And all teachers are expected to hold all students to those behavior rules and routines, even not in their classroom.

- Further, all adults in the school accept every child – and every child’s family – who walks through the door, whatever the family situation or learning background, and provide academic and social supports and accommodations to meet the diverse, individual needs.
- Teacher collaboration within and across grades, some formal but numerous and ongoing informal collaborations. Indeed, teacher work in this school is collaborative work.
- Consistency of curriculum and instruction practice. Every teacher is expected to teach all the content standards in reading, writing, mathematics and science. Teachers adopted a common math program that each one implements with fidelity, and every teacher implements a robust reading curriculum tailored to the needs of each student in the class, and providing appropriate emphasis on phonics, vocabulary, spelling, writing, reading comprehension and reading fluency.
 - The consistent curriculum is enhanced with a series of targeted interventions including one-to-one tutoring for reading in grades 1-3, Leveled Literacy Intervention for those grades for students with somewhat less intensive reading problems, new math interventions this year for the newly scheduled Intervention Block at the end of the day, and seamless integration of the Title I reading teacher and Title I paraprofessionals, and the 5 special education teachers and five special education aides into the instructional program throughout the day.
- Data driven decision making, drawing on multiple forms of student performance data, including NECAP scores, NECAP released items, benchmark assessments

for both reading and mathematics, PNOA and OGAP math assessments, and a Data Wall that publicly tracks student performance over the course of the academic year. Moreover, all improvement goals for the school as a whole and for each content area in each grade are specified in terms of these performance measures, with an overall goal of having all students perform at least at the 3, or meets standards, level.

- Accountability for results. Teachers in this school assume responsibility for the student performance results of their work. If students perform to standards (or above) they know it is from their hard instructional work; if some instructional approach or initiative does not boost student performance, “It is back to the drawing board,” with nary a comment that it was “the kids” that led to the lack of success. The goal is for no child to fall through the cracks. Every teacher in the school is responsible for every child, academically and behaviorally, and every child is accountable to any teacher. Teachers expect every child, whatever his or her background, to learn to standards, and if the student does not, they figure out why and work to fix or improve instruction, instructional supports and/or other supports so the student does succeed.

Put differently, the school is characterized by a strong professional culture: high expectations for student learning, agreement on instructional approaches, use of student performance data for making all key decisions, accountability for results and relentless pursuit for attaining those results.

Talent

It also should be clear at this point that talent is a factor at this school. White River School has teaching and paraprofessional staff who are equipped with a comprehensive array of behavioral, curriculum -- particularly reading, collaborative, and analytic expertise, and who are willing to work hard all the time. It appears to be the case that the professionals at this school have an above average skill set, a statement also true for the school's paraprofessionals. The faculty are continuous learners; they never feel they have all the instructional tools they need; they continue to learn more so they can make even more improvements for students. Within the school, staff have different areas of expertise; some are super strong in language arts and reading, others in math and others in science. Some teachers have two Master's degrees; several have a Master's degree in reading. This means the school has deep content expertise in all major content areas. Many of the faculty have been at the school for a long time so there is accumulated knowledge and wisdom. As mentioned above, staff collaborate informally all the time, they are always asking each other questions, trying to do better, to learn more, and desiring to implement new strategies that work for their students.

The school is well positioned to recruit top teachers. The district, Hartford, has a good reputation throughout the region. Though salaries are average, the district and this school are known for being student focused, supporting a professional community within the school, mentoring all new teachers and having administrators support teachers -- the elements that teachers want when looking for a place to work. Proof of the desirability of working at the school is the 150 applicants for the one open kindergarten teacher position

last year. Additional evidence of the attractiveness of the school is low teacher turnover and the many numbers of teachers who have been at the school for well over a decade.

In short, talent is another part of the White River Story. Teachers have instructional expertise that is comprehensive, complex and sophisticated. The school expects teachers to know more about how to teach reading than would be embedded in a commercially bought textbook series. The school expects teachers to educate all the students to high standards, with large percentages of students coming from family contexts that in most other places around the country result in low levels of achievement – but not at this school. Without the talented and skilled staff in this school, its strategies would not be as effectively implemented and its results would not be as high. Talented teachers and paraprofessionals, and supportive and equally talented administrators, are another reason behind the success of White River School.

Summary

At one level, the elements behind the high levels of performance and improvements in student performance at White River School are what drive student performance in other schools across the country:

- High expectations for student learning despite the family context from which they come
- A rich and rigorous curriculum and instruction program, which in this school includes a reading program with appropriate emphases on phonics, vocabulary, spelling, writing, reading comprehension and reading fluency, a math program that seeks to develop student understanding of mathematics as well as automaticity in the arithmetic facts, as well as science, behavior and other subjects

- Multiple interventions to help struggling students to learn to standards including one-to-one tutoring for students below standards, another small group intervention for struggling readers (Leveled Literacy Intervention) but in groups of 3, a new intervention block for students struggling with mathematics, and a seamless integration of the services of 2 Title I teachers and 5 special education teachers as well as six paraprofessionals.
- Data driven decision making, drawing on multiple sources of data including a detailed benchmark assessment system for both reading and mathematics, and public display of the performance levels of all students that tracks performance progress of the year.
- A collaborative teacher culture, facilitated by pupil free time for professional learning communities each day, and enhanced by teachers collaborating on virtually everything, every day, including weekends and evenings.
- Heavy, continuous investments in ongoing training in all subjects for all teachers as well as for groups of teachers, reinforced by three half-time positions for teacher leaders in each of reading, math and science.
- A professional culture with common high expectations for student academic and behavioral performance, for a consistent approach to curriculum and instruction, and for accepting responsibility for the results of teaching, i.e., accountability for results.
- Top teacher talent. The school is intentional about who they hire, about equipping the teachers in the school with the broad and deep array of skills and

knowledge needed to be effective in the school, and about holding teachers accountable for being effective with their students.

- Strong and supportive school leadership – by the principal, teacher leaders and the teachers themselves. Leadership is broad and dense in this school, and includes paraprofessionals as well.

What this school has done can be duplicated by other schools. What this school has accomplished proves that demographics are not academic determinants, but that the hard, professional work of teachers relentlessly seeking to produce high levels of student performance is what ultimately matters.