

AN EVALUATION OF VERMONT'S EDUCATION FINANCE SYSTEM



Whitcomb Junior/Senior High School Case Study

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WHITCOMB JUNIOR/SENIOR HIGH SCHOOL

Bethel, Vermont

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Whitcomb Senior High School is located in Bethel, Vermont. It is part of the Windsor Northwest Supervisory Union, which includes six towns, three of which have schools. Whitcomb is the school for the town of Bethel. The high school is one of three “school” units in a single building that includes all grades preK through 12. The building includes a preschool program, a primary school grades K-6 and a junior/senior high school grades 7-12.

Bethel is a small community of approximately 1,800 persons. Families work in many different capacities: industry, sales, education, manufacturing, medical, farming. However, Bethel is primarily a working class community with relatively low per capita income. Though the president of the Bethel School Board works at Dartmouth, about 30 minutes south east of the town on Interstate 89, the majority of people are farmers, assembly line workers, contractors (now rebuilding roads after the Hurricane Irene floods), carpenters, plumbers and electricians, employees at the local hospital, with a few in the professional class of lawyers and educators. Overall, the town is relatively self-sufficient with most people living and working in the general vicinity. Most families are middle or lower middle class. Bethel also is a political bell weather town; as the saying goes, “As Bethel votes, so votes Vermont.”

The preK-12 school enrollment is about 306 students, with about 30 students in the preschool – 15 in each of two half-day sessions. The Junior/Senior High School enrolls about 140 students, with about 20-25 students in each grade. Though last year’s

graduating class was small with only 16 students (and these are the students who took the Grade 11 NECAP tests in 2010), the senior class this year has 25 students. The free and reduced price lunch count for the entire school is about 50 percent, with somewhat less than that in the high school as many eligible students do not apply. The special education incidence is thought to be high; this year the entire school had 48 students with an identified disability, or 16 %. This reflects mostly students with learning disabilities but also includes a large number of students with speech and language disabilities. The school has a small percentage of transient families, due in part to several low income housing units in the town as well as its close proximity to Interstate 89, which facilitates movement around the state.

Average class size in the junior/senior high school is about 11, as most grades have two sections for each group of 20-25 students. Class sizes in the high school vary but from the low single digits to the mid-teens. The school offers three languages so the advanced language classes often have very few students. Class sizes in the elementary school average about 14. For the 2009 school year (the last year for which we have data for all districts), Whitcomb prek-12 spent \$10,806 per student for current instructional expenditures minus transportation, significantly below the state wide average of \$13,923.

Whitcomb High School uses a block schedule of about 90 minutes but with an interesting twist. On Monday, every class meets for 45 minutes, with the classes then meeting on Tuesday and Thursday, or Wednesday and Friday for the full 90 minute block. Given this schedule, students can take up to eight classes. Teachers provide instruction for 3 blocks each day and have pupil free time for the fourth block; so over the course of two days, teachers provide six different classes. Unfortunately there is little

opportunity for collaboration because the schedule does not provide common planning time for teachers in the various departments.

School performance at Whitcomb High School has shown important gains for the students in Grade 11, especially in reading, writing and mathematics, as shown in Table 1. The percent of Grade 11 students performing at the Proficient or above levels in mathematics rose from a very low 8 % in 2007 to 52% in 2010. The percent of Grade 11 students scoring at the Proficient and above levels also rose in reading, from 50% in 2007 to 80% in 2010; and the percent scoring at the Proficient with Distinction level in reading also rose over that time period from just 25% in 2007 to 44% in 2010. Gains also were produced in writing, with the percent of Grade 11 students scoring at the Proficient or higher level more than doubling from 25% in 2007 to 57% in 2010. Scores in grade 11 science have not been that high.

Table 1
NECAP Scores for Whitcomb High School, 2007-2010

Subject and Performance	2007 NECAP	2008 NECAP	2009 NECAP	2010 NECAP
Mathematics	Grades 11			
Proficient and Above	8%	38%	7%	52%
Proficient with Distinction	0%	0%	0%	0%
Reading	Grades 11			
Proficient and Above	50%	71%	69%	80%
Proficient with Distinction	25%	33%	23%	44%
Writing	Grade 11			
Proficient and Above	25%	22%	53%	57%
Proficient	0%	0%	0%	0%

with Distinction				
Science	Grade 11			
Proficient and Above	--	20%	16%	--
Proficient with Distinction	--	0%	0%	--

However, several of those interviewed stated that some caution should be taken in assessing these numbers because the number of students represented is quite small, usually 25 or less, so some of the change in the scores can be attributed to small numbers of students.

Of the graduating class of 2011, which was one of the smallest in recent years, 5 went on to four-year college, 4 went on to two-year college and 6 went on to work/military.

This case tells the story about how Whitomb High School produced these impressive results. The case is based on a review of written documents as well as interviews with the principal, assistant principal, curriculum directory and nearly all certified staff in the English/language arts, social studies, and math departments, as well as other selected teachers, in mid-November. 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 is organized into the following eight sections: staff, goals, curriculum, assessments, interventions, professional development, school culture, and a summary.

Staff

Staff at Whitcomb Junior/Senior High school is a bit challenging to identify since the school is organized as an integrated preK-12 unit, with for example the principal serving as the principal of the elementary and well as the junior/senior high school. The following estimates the staff time for the junior/senior high school (given in Full-Time-Equivalents – FTE):

Administration

- 0.5 Principal
- 0.5 assistant principal
- 1.0 Athletic Director

Core classes:

- 2.0 English/language arts
- 2.0 Social studies
- 2.0 Mathematics
- 2.0 Science

Elective classes:

- 1.0 World language
- 1.0 Physical education/driver education
- 1.0 Family/Consumer Sciences/Health/Language
- 1.5 Art and music, including 0.5 each of instrumental music, vocal/general music and art
- 0.5 Librarian

Pupil support:

- 1.0 Guidance counselor

Extra help:

- 1.0 special education
- Some portion of the school's total of 13 educational assistants

In other words, Whitcomb junior/senior high school has 2 FTE administrative staff positions (including the athletic director as administration), 8 core teacher positions, 4.5 elective teacher positions plus a 0.5 librarian, one guidance counselor, one special education teacher and some portion of the school's total of 13 paraprofessional education assistants. Assuming equal class sizes, a block schedule requires elective teachers at the ratio of 33 % or core teachers, which would be 2.67 positions for Whitcomb, compared to the actual 4.5 elective teacher positions. This staffing pattern reflects a trend in many American high schools with larger numbers of elective teachers. As stated above, class sizes are very small, ranging from the low single digits to the mid-teens.

Goals

Goals have varied substantially over the past several years in part because principal turnover has been high. And every time the school received a new principal, that person set new goals. The goals, however, have not been stated in terms of student performance but rather in terms of implementing new programs. For example, the goal for the 2011-2012 school year is to implement a behavior program called Positive Behavior Intervention and Supports, PBIS. The objective of this program is to reduce behavioral referrals. It was launched in Fall 2011.

A few years ago the school goal was to develop Grade Essential Standards (GES) for each grade level; that activity has now switched to assessing those GESs in light of the forthcoming common core standards in mathematics and reading.

Three years ago, the school goal began to implement a program called Drop Everything And Read (DEAR). DEAR is a program designed to increase student's reading interests and skills. So every day at Whitcomb, right after lunch, the high school "drops everything" and has students read independently (in an assigned room) for 30 minutes, from 12:45 to 1:15. Teachers and administrators believe this has led to more reading by most students and to more and more sophisticated discussions with students about literature.

Several years ago, the supervisory union (referred to as the district in this school) also launched Curriculum Councils. Such councils, which are comprised of teachers and administrators from across the three schools in the district and a central office leader, have been created in most content areas, including science, math, reading, social studies and the arts. This provides a mechanism for collaboration both across grades within schools and across schools within the district.

Because principals have changed so often over the past many years, the current administrators believe that assessing those things that have stayed constant – e.g., parental involvement, good instruction, personalization, more collaboration – might be more powerful in explaining improvements in school performance, than specific programmatic goals per se.

Curriculum

When asked about how Whitcomb had produced the gains in student performance, several teachers and administrators interviewed stated that the 2010 scores reflected that specific cohort of students, now seniors, who had been strong performers throughout their career in the K-12 school, from the elementary and through the junior and senior high school. And some said the 2011 NECAP scores would drop because that group of students (this year's seniors) had not been performing that well. So there was some feeling that demographics and small numbers might be factors behind the Grade 11 data showing high school performance.

When asked what makes this school tick – what were the strong elements of this school, many of those interviewed stated that the key factors might be less the curriculum per se, and more other factors like good teaching, good connections with students and their parents, personalization of instruction, the school's small size that facilitated personalization and connections, open communication within the school and with parents, a caring faculty and considerate student body, collaboration among the faculty, and high expectations for student performance. Several said it was these factors rather than school leadership – which had changed a great deal over the past decade – were the constants in the school, provided consistency across leadership changes and helped to produce student performance over time.

The factors most identified were small school size, personalization of instruction, engagement with both students and parents, and faculty collaboration – and everyone felt these factors reinforced each other. The small size meant that there were fewer adults to get to know within the school and that there were fewer students and parents to get to

know at a deep level. Thus the small size facilitated a cultural element of getting to know every student, every student's parent and all faculty; this knowing then helped foster teacher collaboration and personalization of instruction, in both formal and informal settings.

Nevertheless, there also were several comments about the curriculum and instructional program, as well as professional development, which interviewees suggested also under helped improve the levels of student performance.

Mathematics. As mathematics is a more sequenced content area, the school has two tracks in mathematics as well as a unique approach to the mathematics curriculum. Rather than the typical Algebra 1, Geometry and Algebra 2 sequence, Whitcomb (and its supervisory union) created "integrated" math courses that combine the content of Algebra 1, Geometry and Algebra 2 from the beginning and then address the various concepts in a spiraled way until students begin to take more traditional courses like pre-Calculus. So a typical college oriented student would take College Prep Math 1 in Grade 9 and College Prep Math 2 in Grade 10. The first class would cover data collection, presentation, and interpretation; introduction to linear and exponential functions; probability and proportions; and surface area and volume. The second class continues to use the mathematics from previous year, and introduces trigonometric ratios, matrices, linear programming and statistics, while also encouraging the development of algebraic skills. Exploring mathematical concepts on the TI-84+ calculator also is a regular part of this course. College Prep Math 3 then builds on the mathematical concepts from the previous two courses and covers rational, logarithmic and circular functions; proofs, combinatorics and curve fitting. Students would then take a pre-Calculus class in their senior year.

More advanced students could take the College Prep Math 1 in eighth grade, and then be able to take a full Calculus class in their senior year.

However, this year the school returned to a more traditional Algebra 2 course because the new common math standards have that as the typical junior level math course, and colleges and universities expect students to have taken a traditional Algebra 2 course.

Students slower in learning mathematics would take math classes that cover the same content as College Prep Math 1 and 2 but at a slower pace. So they would take Integrated Math 1a in Grade 9, Integrated Math 1b in Grade 10 and Integrated Math 2 in Grade 11. These courses would satisfy the school's requirement for taking 3 years of math in order to graduate.

However, the Integrated Math sequence does not cover all of the content that is tested on the Grade 11 math NECAP test, which is given in the fall of Grade 11. So students in this math track are not as well prepared to do well, and generally not expected to do well, on the NECAP mathematics test. And if students do not meet the Proficiency standards on the test, they then must take one of two additional math classes that have been developed for such students – Problem Solving or Essential Mathematics.

One reason for the rise in math scores in 2010 is that most of the juniors in that year had taken the College Prep math sequence, while most juniors this year have not, so it could be that the 2011 math scores will drop.

English/language arts. As the school's course of studies notes, students are required to complete four years of English study to earn their high school diploma. And the school has a two-strand approach to the English curriculum: one for students desiring

to attend a four-year college and university programs and another that prepares students for entry-level work and most two-year colleges.

For the four year college bound students, the curriculum includes American Literature in Grade 9, Literature 10, Understanding Film and English 11/12 as well as an Honors English class. These classes are available to students who show superior skill and motivation.

The sequence for the other students is designed in Grade 9 to improve students' reading strategies, vocabulary, grammar skills, and basic writing abilities. Students explore a variety of literature including short stories, novels, essays, plays, and poetry. The major novels are contemporary young adult fiction titles. Grade 10 English concentrates on English fundamentals including reading comprehension, interpretation of texts, composition, and the "basics" (grammar, punctuation, etc.). Students are asked to read and respond to various works of literature (e.g. *Planet of the Apes*, *Animal Farm*, *Dr. Jekyll and Mr. Hyde*); writing projects include three formal on essays – the persuasive essay, the narrative, and the reflective essay. The Grade 11 course emphasizes reading comprehension, interpretation of texts, composition, and basic writing skills. Students read and respond to various works of literature on a weekly basis (novels like *Speak*, *A Separate Peace*, etc.). Writing projects include three of the standard Vermont Portfolio essays (response to literature, reflective essay, narrative, etc.) and numerous exercises related to the study of English grammar and usage.

In addition to the above specifics, the English teachers try to have students become as good readers as possible – even to fall in love with reading, to read more books, to expand their vocabulary and to work hard at writing. The department believes

that an expanded vocabulary is a key to becoming a better reader and thinker, so seeks to expose students to more challenging literature that has both more complex vocabulary and more complex issues; instruction then emphasizes the learning of the new words, analysis of the issues addressed in the text, and then connecting those issues to the broader world and the personal lives of students. The intent is to broaden the students' awareness of the outside world and their ability to relate literature to it, to continue to expand their vocabulary so they become more adept at reading, and by writing about these issues, to become better at writing. One teacher had the students write about their personal experiences with the Hurricane Irene flooding this past summer and the class is in the process of publishing the resultant essays as a book.

Finally, the Grade 7 and 8 English classes this year have eliminated “leveled books” for teaching reading and writing, and the teacher has all students reading the same and more challenging texts. She then scaffolds the instruction to bring the slower students along while they all address the same English issues related to reading and writing about literature.

Writing. Several teachers stated that the school has placed heavy emphasis on writing over the past several years including professional development in how to teach writing. It is clear from the descriptions of the English courses that writing is emphasized in every course, both writing mechanics and various types of writing. The school emphasizes writing across the curriculum so there are writing projects in most courses – persuasive essays, responses to literature, reports, etc. The social studies courses include persuasive and report writing that are included in every social studies course from grade 7 to 12; the social studies courses also emphasize research writing and includes research

reports in nearly all courses. The English department focuses on narrative and personal essay; and the science department on the report form of writing. So the school has an intentional and systemic approach to teaching students how to write various kinds of essays.

Teachers emphasize the writing process. For example, in English, students write a minimum of three formal essays a year. The courses begin with some pre writing activities, then teach what a narrative or persuasive essay is, and then the elements of a good essay: an introduction, several paragraphs for the body of the essay, and then a concluding paragraph. Teachers will give students examples of essays and will read them narratives. A few weeks later, students must submit a first completed draft for the assigned essay. The teacher then gives each student a memo identifying what they did well and things need to work on to improve the essay. Specific feedback might include including more examples to illustrate their points, to explain their examples a bit more, to make each point relate to their thesis, and so on. A second draft is then submitted and the student receives additional feedback. The final version, then, might be the third or fourth draft. Each student must have the teacher accept the essays in order to meet the requirements to pass the course; rewriting is required until a draft is produced that meets standards.

There also is a Writers Fair every year, which is a major, public event for the school and the community.

Reading. The faculty believes that one reason students do well in reading at the high school level is because of the reading program in the elementary part of the school. From a program two decades that was idiosyncratic to each teacher, the elementary

grades in Whitcomb now have a more structured reading program. The elementary school's reading change was spurred by an individual who is now the district's Title I coordinator and formerly a Reading specialist, and is housed at Whitcomb. She became trained in Reading Recovery, the Marie Clay approach to reading which includes leveled books, and has worked both with teachers in Whitcomb elementary and teachers in the other elementary schools in the district on reading and writing issues for almost two decades.

For the past ten years, this person has worked with a voluntary group of elementary teachers across the district who want to create and implement a stronger reading program. This Early Literacy Team started in 1995 and meets from 3:30 to 5:05 addressing such issues as:

- what is a good reading program
- what to do during literacy block
- what is good writing and what to do during a writing block
- what to do with kids who are struggling.

The informal goal for Whitcomb elementary, as well as for the district's other elementary schools, is to have a reading block, a writers workshop block, a spelling block, and ongoing word work during which the teacher would focus on phonics. In addition to guided reading with leveled books, the district adopted the Wilson Fundations program, which is used K-2, to provide a more systematic approach to phonemic awareness, phonics and spelling. **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. However, Grade 3 teachers do not use Fundations but implement their own approach to phonics.

The Title I Reading teacher teaches Writers Workshop, based on the work of Lucky Calkins, in the fourth grade in Whitcomb. The workshop approach to writing includes having students write about topics they know; providing mini lessons on such issues as language, grammar, vocabulary, use of illustrations; and then having students move through the process of writing, getting feedback, editing, revising and then submitting a final product. She is modeling Writers Workshop for the new teachers in Grades 2 and 3 this year. And all students are writing about their experiences in the Hurricane Irene flooding which devastated this community in early September.

The reading and writing programs are augmented by individual and very small group tutoring for students struggling in reading. The district has trained Title I staff in a solid approach to tutoring, similar to but not formally Reading Recovery. To ensure subsequent effectiveness for tutors, the Title I Reading Teacher created what is called the “Reading Bible,” so all tutors have a reference document describing reading development, how to teach reading, how to teach phonics, how to collect formative assessments called “running record,” how to do word work,” and so on. Further, the Title I coordinator meets with the Title I Reading professional and paraprofessional staff four times a year when they discuss complex reading problems for specific students and how to address them, both in the regular classroom and in tutoring.

At the high school, one of the most noted initiatives in reading has been the DEAR program – Drop Everything And Read. For about 30 minutes every day in the middle of the day, every student goes to an assigned room and does independent reading

by choosing a book from a set of books created by the teachers. This is the fourth year the school has implemented this program. The program has instilled consistency in staff's stressing reading, paying attention to books that students select, and emphasizing more reading in classrooms. As a result, teachers are paying more attention to selecting books in their courses – and for the DEAR period – that are of interest to their students. Reading for pleasure is a disposition the school intentionally is trying to create for both students and staff. Nearly everyone mentioned the DEAR program as a factor in student's improved reading performance.

The school also participates in two Vermont book award programs -- the Dorothy Canfield Fisher program for Grades 4-8 and the Green Mountain Book Award for Grades 9-12. Each award has a list of 3-5 books for students to read, and after reading them, students vote for their favorite book. The author of the most popular book receives the award. This participation provides all students with a common experience in book reading and subsequent literary discussion.

Social Studies. The social studies program provides a seventh grade course of geography, which is a combination of physical and cultural geography. Grades 8 and 9 cover U.S. History, through the Civil War for Grade 8 and up to World War II in Grade 9. Students must take a European History or World History class in Grade 10 and then have electives for Grades 11 and 12.

Teachers have gone the extra mile in developing elective classes, soliciting student interest in creating courses in response to them. Electives have included courses on the Middle East and Human Rights. The department also provides a “capstone”

course for writing, which helps prepare students to write their college application essay. All Grade 11 and 12 classes emphasize writing and research report writing.

Further, the social studies and English teachers have begun to coordinate the teaching of some curriculum units, so when the social studies teacher covers a certain time period, the English teacher will have students read literature books from the same time period.

Point of view about teaching. In this school, there is a common understanding about what is good teaching. Good teaching means strong and authentic connections with students, getting to know students on an academic as well as personal level, personalizing instruction and having a “passion” to make sure all students learn. So to be a good teacher in this school means knowing each individual student, figuring out what works for each student, communicating with other teachers about what instructional approaches and activities work in general and work for specific students, and then exerting effort to make sure no student falls through the cracks and gets the help – in the class and outside the class – to achieve to standards. Teachers new to the school recognized this aspect of the school culture and its approach to instruction. Further, most teachers believed that the small size of the school – and each classroom (which rarely if ever has more than 15 students) – facilitated this approach to teacher work in this school.

Assessment

Most teachers stated that they are not “driven” by the NECAP testing system; they also said that if the school provides a solid curriculum, focuses on reading comprehension and writing across the curriculum, and emphasizes higher order thinking skills in all curriculum areas, students would perform well on NECAP and NECAP

scores would rise. A few teachers provided some exposure to NECAP by having students take some NECAP items, but generally most said they paid little attention to NECAP.

Nevertheless, over the past 5-6 years, the school did do some analysis of its curriculum and made changes to some of the curriculum so it more closely aligned with NECAP. For example, in the math program, teachers discovered that the integrated math approach deemphasized computation skills, solving algebraic equations and almost ignored geometry proofs, all skills and concepts that were on the NECAP math test for Grade 11. So the teachers augmented the integrated curriculum to include these topics to better prepare all students.

In addition, Whitcomb also created a policy to motivate students to take the state NECAP testing seriously. About 10 years ago, Whitcomb was identified as a non-performing school under the federal Adequate Yearly Progress (AYP) standards. When the faculty investigated the underlying reasons, they discovered that many students did not take the state test seriously – they guessed at answers, doodled during the test taking time and finished the test far before the testing time was exhausted so did not work hard to do well on the test. Thus the faculty encouraged the school board to adopt a policy that would give meaning to the NECAP test and it did so. Today, if students do not meet standards on NECAP, i.e., get a Proficient or higher score, they must take an additional elective class in the subject in order to graduate from high school. As a result, faculty believe that all students take NECAP testing seriously and perform as well as possible on the test.

Though many faculty discussed “formative” assessments they used and stated that every teacher is expected to know the academic and motivational strengths and weakness of all students, the approaches were individualistic to each teacher; there did not seem to be a systemic approach to a formative assessment system in any subject matter area at least at the high school.

The school does use some benchmark assessments to monitor student performance. It administers the online NWEA MAP assessments twice a year for Grades 2-10, once in September and once in May, and for both reading and mathematics. In addition, the school administers the DRA2 reading assessment three times a year for all students in Grades 3-6, and for targeted students in Grades 7 and 8. The DRA2 is a criterion-based authentic assessment that measures a student’s ability to preview and predict a story, fluency in oral reading, and expression the student uses when reading. In a one-on-one conference, DRA2 enables teachers to systematically observe, record, and evaluate change in student reading performance and to plan for and teach what each student needs to learn next. So by measuring reading comprehension and reading fluency teachers are able to determine appropriately leveled reading materials for instruction and what types of independent reading can be expected from each student. But other than the MAP, Whitcomb Senior High School has no reading or math assessment – other than NECAP – for high school students.

The school has a computer based data system called BEAMS, Betel Education Assessment Management System. Teachers noted that “everything” about students and their performance is in that system. For example, for all students, a teacher can see grades in other classes, comments other teachers have written on assessments, behavioral

issues and who has had detentions, all contained in quarter reports and interim-quarter reports. These data help teachers understand academic strengths and weakness for each student. So if a student is struggling in English, for example, but doing well in math and science, the English teacher could go to those teachers and ask them what they are doing to motivate the student. If the student is struggling in all classes, the teachers as a group could schedule a visit with parents and have the parents visit with the team of teachers, rather than just each individual teacher at different times.

Interventions

There are not many formal interventions for struggling students at Whitcomb Junior/Senior High School. On the one hand, the two “tracks” in mathematics and English/language arts provide an instructional path for the slower learning students in those subjects, which hopefully obviates the need for additional extra help. In addition, the block schedule of 90 minutes provides time for teachers to provide some individual attention to students who need it, at the end of each instructional block when most students are applying the concepts for the day or starting homework.

Though Whitcomb does have an after school Homework Club, where some students can get extra academic help, more than one teacher wished that there was a place in the school, or a time during regular school hours, where a struggling student could find some kind of extra help.

For several years, the junior high school had a summer program to “catch-up” students with reading problems and to give them help before their high school experiences began. The program focused on reading books; teachers would spend half the morning reading books with the students and providing lessons on various reading

skills. The goal was to give students lagging in reading performance a “jump start” for performing to standards in the more difficult secondary English/language arts classes.

Students with an identified disability generally have an IEP that requires the help of a paraprofessional during their content classes. So in many core content classes, there is a paraprofessional in the class in addition to the teacher. The paraprofessional will work with all the students in the class (whether one or more) during the class, and sometimes outside the class, to provide the needed extra assistance. The special education teachers also work with students who have an IEP outside of regular class hours when the IEP requires it.

Professional Development

There was some but not much mention of professional development. The more veteran teachers noted that there had been considerable professional development over the past several years on writing, and in the years before NECAP, on helping students prepare writing portfolios. The school’s emphasis on writing in virtually all subjects probably derives in part from this training.

Teachers also mentioned considerable professional development for mathematics, for both the junior and senior high math teachers. This training was mostly focused on the “integrated” math courses that were taught from Grade 9 to Grade 11 for most students. The district provided the training for the integrated mathematics for three full summers; the training covered the organization of the content and the math content itself, as well as instructional strategies for teaching the content. Teachers felt this training was excellent.

More currently, there has been training on incorporating technology into the curriculum. Per the district collectively bargained teacher contract, which is district wide, teachers can take, at district expense, up to six credits every year at the University of Vermont. Teachers are rarely if ever turned down for any professional development experience requested. In this district and school, the teacher drives professional development experiences.

School Culture

The culture in this school is important; it transcends the lack of turnover of school leadership and is seen by many if not all teachers as a key to why the school has been effective. New teachers quickly became aware of the school's culture – how much each individual teacher cares about the performance of each student, how well they know students both academically and non-academically, how strongly they personalize instruction, how strongly they expect all students to learn, how much they collaborate with other teachers though mostly on an informal basis, and how hard they are willing to work to insure that every student has multiple chances to achieve to standards.

Another aspect of this school's culture is the commitment of each teacher to serve students in this not-particularly-economically-advantaged community. Teachers choose to work in this school and in this community, teachers are committed to insuring that every child in the school has opportunities to learn and expect other teachers to do the same, and teachers stay in this school (the new hires this year were primarily because of retirements).

Summary

The success of Whitcomb high school has multiple roots, some culture based, some teaching based, some curriculum based and one related to class size. They include:

- Committed faculty matter in this school. They have chosen to work and want to work in this school. They like working in the school. And they stay in this school for many years. They are committed to serving the students in this school including their parents, many of whom do not have the advantages of other families. Several teachers interviewed said they have a passion to work in this school, and serve this community and its students.
- Teachers who get to know students both academically and non-academically, connect with students both academically and non-academically, and use that knowledge to *personalize instruction*, make sure no child falls between the cracks, and provide whatever assistance is needed in order for all students to learn.
- Teachers who reach out to parents and encouraging parents to be involved with their children and with the school. The school believes that outreach to parents and parent involvement are key to student learning. School leaders stated that if the school had more resources it would expand parental outreach, create classes for parents, and provide or orchestrate more social services for them.
- Teacher collaboration, but mostly on an informal basis because there is no common planning time for teachers in the same department. Nevertheless, teachers expect to collaborate with other teachers on many issues and expect other teachers to be available for such collaboration.

- An emphasis on reading and writing, including reading and writing across the curriculum and in the content areas of social studies, science and math.
Beginning in the elementary school and continuing through the junior and senior high school years, reading and writing is stressed in this school. The goals are not only to enable students to read to learn complex material but also, through the DEAR and other programs, to instill a love for reading in all students and incent students to read independently. The English/language arts curriculum in the school provides for advanced students to move forward and stresses the basic writing, grammar, reading, and reading comprehensive skills all students will need for success in work or a two year college.
- A solid mathematics and social studies curriculum. The math curriculum is more aligned with the NECAP for the college bound students than non college-bound students. The non-college bound math curriculum is undergoing changes to align with the common math standards and the NECAP test that measures performance on those standards.
- Small class sizes.. Several teachers said that the small class and small school size facilitated their goal of getting to know all students, personalizing instruction for all students and collaborating on an often but informal basis., Many teachers said it was the small class size that attracted them to this school in the first place and is part of what keeps them at the school.