Brighton Central School District
Mathematics Curriculum Evaluation Report
2015-2016

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Submitted to
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Background & Rationale

This evaluation was performed at the requested of the Brighton Central School District (BCSD). It follows a recent internal evaluation of the mathematics program, and was further motivated because:

> "While [BCSD's] philosophical underpinnings and corresponding pedagogical practices seem to directly align to the mathematical practices articulated in the Common Core [State Standards], our State test results over the last three years (which purport to assess our students' acquisition of the Common Core [State] Standards) are not reflective of what we believe our students are capable of mathematically."
>
> - Debby Baker

Additionally, the curriculum used at the elementary grades is undergoing revision by the publisher, prompting BCSD to reexamine curriculum choices at the lower grades; this evaluation may be able to guide those choices.

With this in mind, an evaluation was planned and carried out to examine how current curricula align with the Common Core State Standards, how adopted curricula are implemented, how academic support functions in practice, and what additional or revised support, policies or structures may be warranted.

The evaluation was partially constrained by a desire to have the results available on February 5, 2016, which is early enough in the budgeting process for the 2016-17 school year for the recommendations to be included in the budgeting process.

Evaluation Design and Methods

Design

The evaluation was designed to answer the following questions:

- How well do the adopted mathematics curricula of BCSD – Investigations in grades K-5, Connected Math in grades 6-8, and Core Plus in grades 9-12 – align with the Common Core State Standards (CCSS) and the New York State Education Department tests designed to test these standards?
- How well do the current BCSD curricula, as they are implemented by BCSD teachers, help students meet the CCSS?
- What additional BCSD support or structural changes would have a positive impact on student learning?

It was decided that the evaluation could best answer these questions through a combination of quantitative analyses of standardized test data and qualitative data obtained through interviews, focus groups, and classroom observations.

Timeline

In order to complete the evaluation in time to be useful to the budget process, the following timeline was established:

- November 2015 – Meet with district-level personnel, and design the evaluation
- December 2015 – Meet with teachers in focus groups, and with school Principals, to determine their view of the math program and to ascertain their concerns. Analyze quantitative data provided by BCSD.
- January 1-15, 2016 – Observe teaching and learning in classrooms
- January 22, 2016 – Draft report to Debby Baker, with follow-up consultation to determine additional needs or details
- February 5, 2016 – Final report to BCSD

Data

The evaluation was carried out using the following data:

- Standardized test scores for BCSD students, along with demographic information and teacher information. These data were provided to the Evaluator by BCSD.
- Focus groups with teachers at each school. One focus group was carried out at each school, except that two were carried out at FRES
- Interviews with all four building Principals
- Observations in classrooms. Observations were scheduled for 3 classrooms at CRPS, 2 at FRES, 5 at TCMS, and 4 at BHS.
- Individual information provided by teachers. (Teachers were provided with a means to contact the Evaluator “off the record” and privately, and several did avail themselves of that opportunity.)
- Publisher information regarding curriculum and their alignment with the CCSS and related tests
- Publicly available information regarding CCSS NYSED tests and test results

Analyses

Exploratory data analysis on the test scores and related information revealed several potential patterns in the data, and demonstrated some of BCSD’s concerns. Further examinations of the data were warranted. In particular, regressions using the grades, school year, and other standardized tests were warranted. Significance tests of the regressions, and significance tests between groups, were carried out to test for differences between groups. Analytic induction (Hicks, 1994) was used to draw themes from the qualitative data.

Findings & Discussion

Overall, I find that the BCSD teachers are largely capable and professional, and that they do a rather good job of promoting student learning. I will confine my findings here to patterns that were seen across multiple teachers and/or grades, rather than make specific comments about individual teachers. (I did, however, communicate individually with teachers whose classrooms I observed, giving them a few brief points about my impressions of the classes I observed.) The following are the most notable and well-supported findings from this evaluation; they will be discussed in more detail below:

- Overall, BCSD - at the district, school, and classroom level - expressed and demonstrated an ongoing commitment to its philosophy of teaching mathematics in a manner reflecting the constructivist nature of student learning.
- Standardized college admissions tests, the SAT and the ACT, both show no statistically significant changes over the last decade.
- In the elementary and middle grades, NYSED CC-based test results are uniformly lower than previous NYSED tests. However, except for grades with large numbers of students "opting out" district passing rates and average scores on the CC-based tests have been steadily increasing since the first year of those tests.
- Advanced Placement tests in Calculus have shown a marked decrease since 2010.
- At the high school level, average test scores have been dropping since 2010; passing rates dropped with the implementation of the NYSED CC-based but are climbing.
- At all grade levels, teachers whose instructional approaches are more aligned with constructivist learning tend to have students with higher test scores than teachers whose instructional approaches are less aligned with constructivist learning.
- BCSD curricula are well aligned with the CCSS.
- Upon review of the publicly available material, there is little evidence that CC-based tests reliably and validly assess the CCSS.
- There is widespread dissatisfaction with the opportunities available to, and support structure for, exceptional students, despite substantial commitment and effort by the teachers to serving all students.
- Math teachers have very diverse attitudes toward the professional development opportunities currently available to them.

There are other additional findings, but they are less well supported and will not be included here.

Commitment to Constructivist-Based Teaching

There is very strong commitment to instructional approaches that are aligned with constructivist understandings of learning. Such approaches are generally known to improve the long-term success of students (e.g., Fosnot & Dolk, 2002) and to provide benefits to college-bound

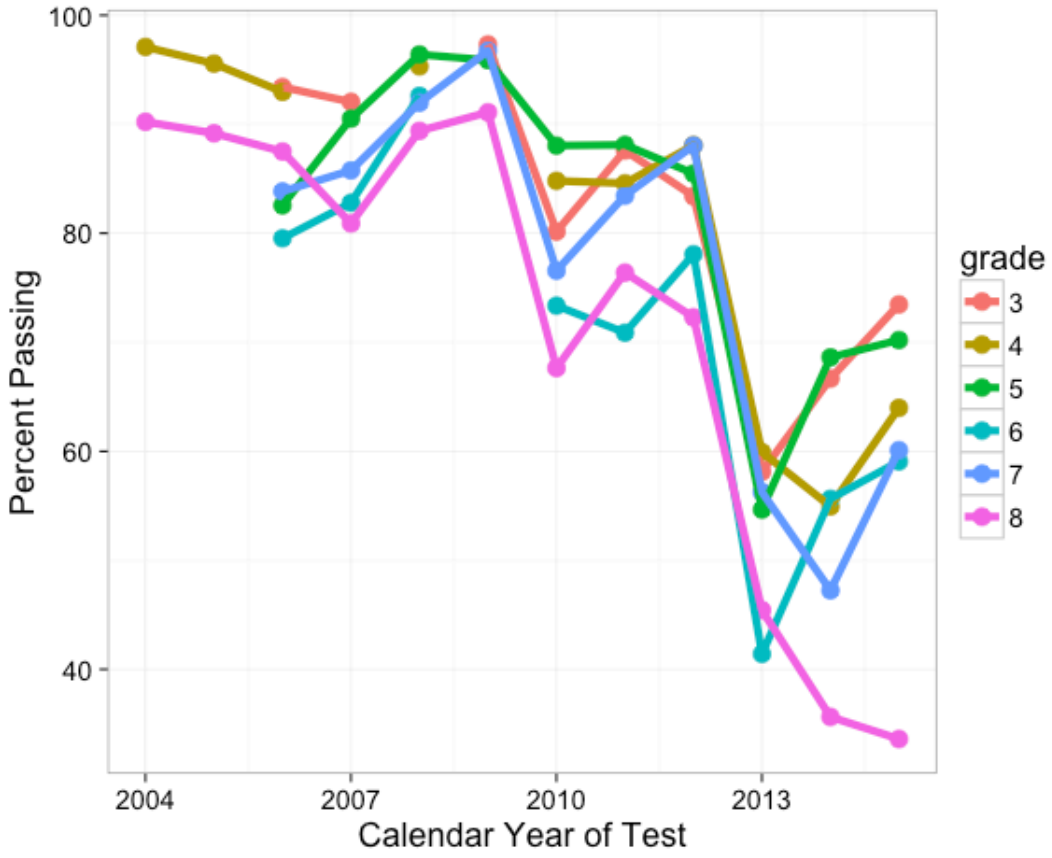
graduates (Schwartz et al, 2009). Administrators, including all four Principals in BCSD, expressed their support for constructivist-based instruction. Teachers and math coaches and leaders in focus groups at all levels overwhelmingly (but not unanimously) voiced their support as well. Observations of classes also provided evidence that such instructional approaches were used, although supplementary materials that are outside the three BCSD-adopted curricula – Investigations, Connected Math, and Core Plus – tended to be less constructivist-aligned than the BCSD-adopted curricula.

Test Outcomes: NYSED

Because the data sources are different, test results for grades 3-8 will be examined separately from grades 9-12.

Grades 3-8

In grades 3-8, exploratory data analysis yields the following graph, relating the percent of students in a grade who achieved a passing score ("3" or "4") on NYSED tests to the year in which the test was given:



This graph indicates 3 important features. First, from 2004 through 2009 (i.e., the 2003-2004 through 2008-2009 school years) there was an overall upward trend in passing percentages. Second, in 2010 there was a sharp drop in all grade levels, followed by a resumption of the upward trend; it is unknown why there would be such a drop, as these occur across two schools (FRES and TCMS), but it is probably that this is an artifact of a change at the State level. (It is unclear as to what that change would have been, however.) The upward trends, while encouraging, are not statistically significant.

The third important feature is the marked drop in 2013, which was the first year of the new CCSS-based tests. This drop was greater than the drop experienced in many other districts; analysis of this drop is discussed below. What should be noted, however, is the relatively rapid rebound of scores at all grades save grade 8. Two pieces of data are needed to put the ongoing drop of 8th grade test scores into context, though. First, the *number* of students not passing the 8th grade test is not significantly increasing; only the *percentage* of passing students is decreasing. Second, 8th grade students who "opt out" of the test do so at a much higher rate than in other grades, as can be seen in this table:

Grade \ Year	2013	2014	2015
3	0	2	3
4	3	2	11
5	1	4	12
6	1	6	11
7	1	10	14
8	3	78	89

The number of "opt out" students is important because the 8th grade Spring MAP scores and NYSED ELA scores, both of which had almost no "opt out", are well correlated with the NYSED math scores. Almost all of the "opt out" 8th grade students had passing ELA scores, and the "opt out" 8th grade students have significantly higher MAP scores than the remaining students, as seen here:

	2013	2014	2015
Average Spring MAP score: "opt out" students	57.0	85.2	84.4
Average Spring MAP score: remaining students	73.3	66.5	64.9

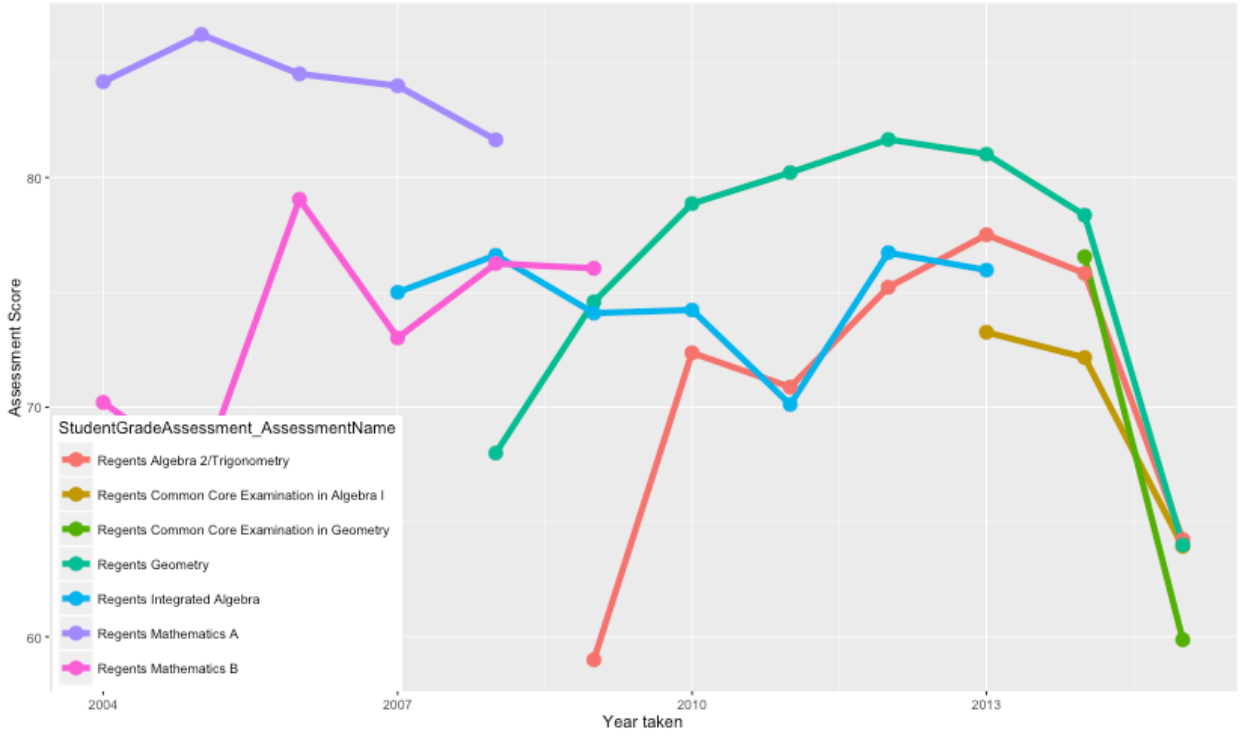
Hence, the "opt out" students are likely to have substantially higher State test scores than the average of the remaining students. Inclusion of these students in the pool of students who take the NYSED tests would therefore be likely to increase the passing rate substantially. Given the

range of MAP scores, and the correlation of MAP to NYSED scores, perhaps as many as 90% of the "opt out" students could be expected to pass the NYSED tests; this would raise the passing rate on the 2015 test to 57%, which is in line with the other TCMS passing rates. Hence, the failure of 8th grade scores to rebound can be attributed to the students who failed to take the tests.

At the same time that the percent of students passing is increasing, the scaled test scores are also increasing.

Grades 9-12

Score trends at the high school are somewhat different than those at the elementary and middle school. This figure shows the average scores for each of the tests; note that the Common Core-based tests are taking over from the other tests, which in turn, took over from the Math A & Math B tests, resulting in seemingly missing data. The starting and stopping of multiple tests during the last decade is one cause of teacher stress at the high school.



There is a notable downward trend in the scores from 2013 on; these correspond to the years of the CC-based tests. Unlike the lower grades, where "opt out" students are likely playing a significant role in the dropping test scores, NYSED tests at the high school level are part of graduation requirements. In discussions with teachers and the BHS Principal, however, and through classroom observations, there are 3 factors that are likely contributors to the downward trend:

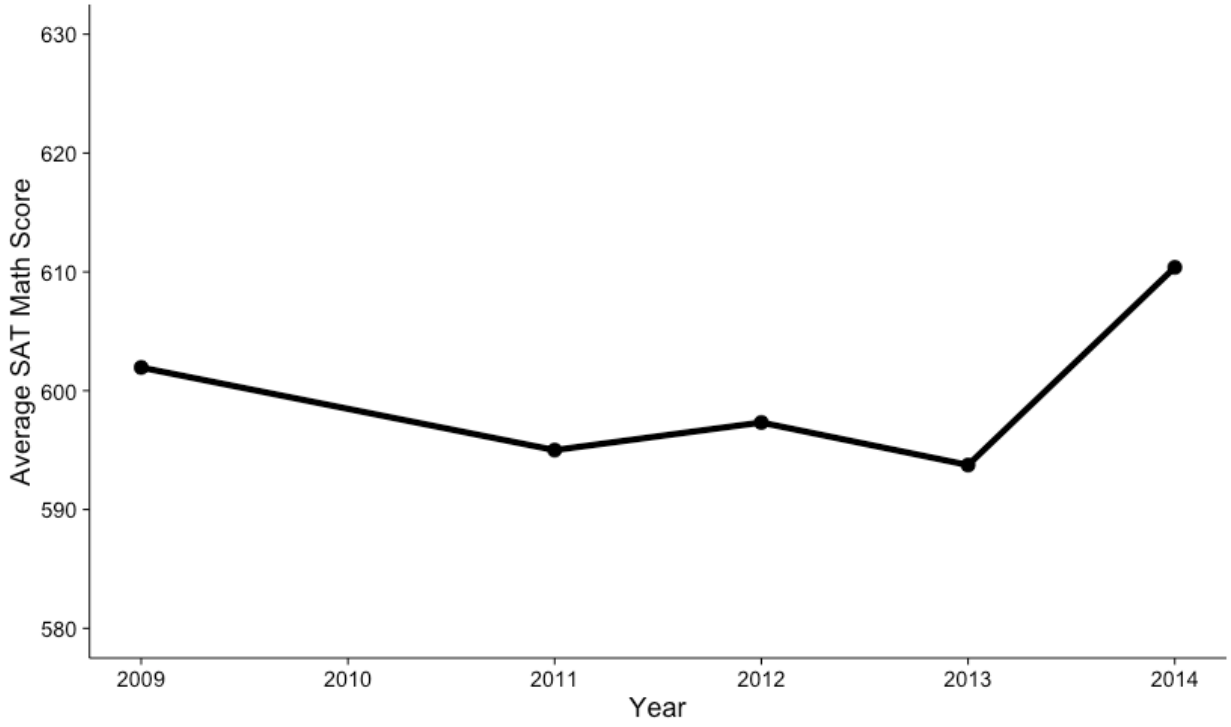
First, there is a higher level of turnover, stress, and general unease among the BHS faculty than there is among the elementary and middle school faculty. There are several contributions to this general unease. There have been relatively frequent changes in the support structure provided to BHS mathematics teachers: for instance, there has been a recent change from a math coach who had substantial release time to the use of instructional leaders who earn a stipend, but do not receive release time, and the amount of release time granted the former math coach varied greatly over the previous years. In addition, there have been other changes in staffing, e.g., which teachers were assigned to teach Advanced Placement courses, with the resulting cascade of changes throughout the math department. This is in contrast to the elementary and middle schools where – while teachers have more different courses to teach in a year – their courses change relatively little from year to year.

Second, it has already been noted that the multiple testing changes - which often required a substantial reorganization of each year's curriculum – have taken a great deal of energy to accommodate. Maintaining one's skill in preparing students for high-stakes tests takes some effort from year-to-year, but reorganizing curriculum to accommodate a new test takes a great deal more effort. While some teachers have been afforded, and been able to take advantage of, extended professional development on their curriculum, most teachers have not been able to take advantage of such opportunities.

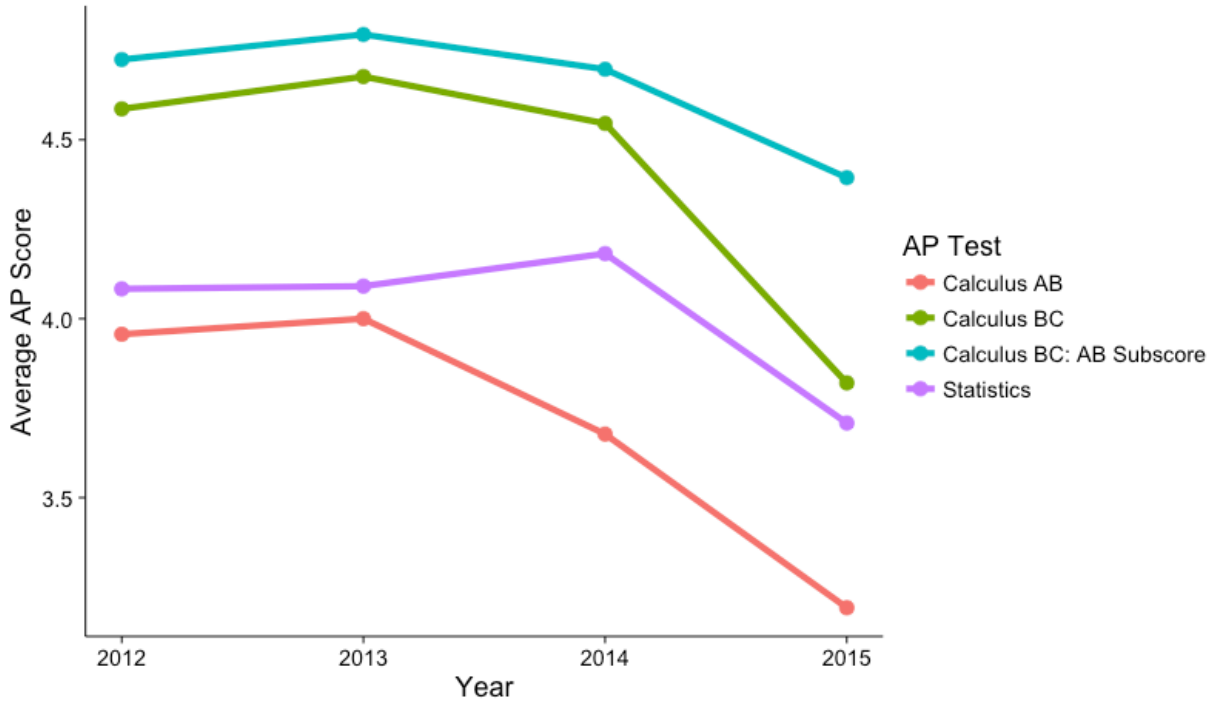
Third, and probably most important, all BHS mathematics teachers remain committed to providing support for IEP and AIS students. While the math teachers are absolutely committed to this support – and this was evident in focus groups and supported by classroom observations - the effort that it takes to provide this support is having a very draining effect on the teachers. The Core Plus curriculum does not provide the level of resources to support IEP and AIS students that is demanded by the mathematics faculty. (To my knowledge, no secondary curriculum provides the level of resources that is required, so changing curriculum will not, by itself, solve the problem.) Hence, faculty must find, modify and/or develop materials that will work for their students. Further, the structure of AIS and ICT are determined largely by (a) the staffing availability of special education teachers, (b) other scheduling requirements, and (c) the lack of mathematical content knowledge and training of the special education teachers. Although all of these are difficult problems, and are somewhat beyond the control of BCSD, all three are having a negative impact on the mathematics teachers.

Test Scores: Other Standardized

In contrast to the changes in the CC-based tests, exams taken for college admission (SAT and ACT) have relatively steady math scores; there is no significant drift of these scores over time:



Advanced Placement (AP) scores, however, have dropped significantly since 2010:



There are multiple factors that contribute to this finding, the most important being substantial turnover in AP teachers during this time; it is well known that learning to teach an AP course takes at least two or three years, and generally requires participation in at least one AP Summer Institute.

Constructivist Instruction

One finding that is important is that teachers who are considered by their peers and supervisors to be more in line with constructivist understandings of learning have significantly higher test scores than teachers who are less in line with these understandings. Almost universally, those teachers identified as "more constructivist" had students with higher test scores.

There are three likely contributors to this result. First, it is well known that teachers who take a more constructivist-based approach to instruction generally have better outcomes (Geier et al., 2008). BCSD's expressed philosophy of teaching is in line with this result. Second, because all of the math curricula that are used in BCSD are constructivist-based, teachers who are in line with the curricula will be more effective than teachers who are struggling with the curricula; in the former case the teacher and curriculum match well and send similar implicit messages to the students, resulting in better coordination of instruction and likely better results for the students. Third, during focus groups and other interactions with teachers, it was clear that many teachers who were "less constructivist" also felt less supported. This feeling is a natural consequence of being at odds with the curriculum and the majority of the other faculty, and while the teachers who feel less supported might be opposed to constructivist approaches, they are more likely merely uncomfortable and/or inexperienced with such approaches. This in turn, increases the stress in a teacher, which encourages those teachers to revert to a more traditional method of instruction. This is particularly problematic because teachers seeking a more traditional method of instruction will not be supported by the BCSD math curricula, which forces the teachers into spending more time in preparation, and a downward spiral ensues.

Student Support

Interviews and focus groups reveal, in all BCSD schools, that providing support for all students is both an expressed priority for teachers and a major obstacle for them: A substantial amount of teacher effort goes to providing support for students who are not responding well to the standard curriculum, and while this is having some positive benefits for students, it also is creating problems for the classroom teachers. (In fact, it is my opinion that, if left unchanged, the current system of providing support for students will prove to be untenable, resulting in decreased learning by all students.)

While the number of students with IEPs has decreased greatly, with the decrease at the high school greater than the decrease at the lower grades, the students who remain are performing substantially worse relative to their non-IEP peers than were the IEP students previously. For example, here are the average scores for students in grades 3-8

Year	Average score of non-IEP students	Average score of IEP students	Percent of students with IEP	Effect Size**

2010-11	700	671	13.8	1.05
2011-12	702	670	12.9	1.05
2012-13*	302	286	13.1	1.22
2013-14	326	284	11.5	1.47
2014-15	329	289	8.9	1.77

* Scale of scores changed starting this year

** Expressed in units of standard deviations of the non-IEP students. E.g., "1.05" indicates that the average for IEP students was 1.05 standard deviations below the average of the non-IEP students

These results also indicate that the students who have been removed from having an IEP are students who probably score better.

Despite the efforts put into supporting IEP students, passing rates on state tests lag behind those of students without IEP. At grades 3-8:

Year	Passing rate of students **without** IEP	Passing rate of students **with** IEP
2010-11	87%	44%
2011-12	88%	42%
2012-13*	57%	17%
2013-14	62%	12%
2014-15	66%	20%

*Year of change to CC-based tests

At BHS, the trends are different:

Year	Passing rate of students **without** IEP	Passing rate of students **with** IEP
2010-11	85%	73%
2011-12	83%	57%
2012-13*	89%	60%
2013-14	89%	75%
2014-15	88%	60%

*Year of change to CC-based tests

The BHS passing rates are markedly higher. From interviews, it is apparent that no one is fully pleased with the ICT/AIS structure, but it is working better at BHS than at the lower grades. From interviews and classroom observations, this appears to be a combination of the BHS math teachers being better at thinking about how students learn the mathematics – what is commonly called *pedagogical content knowledge* (Hill, Rowan, & Ball, 2005) – and the difference in how

AIS/ICT is scheduled and coordinated. (It should be remembered, however, that achieving these higher scores is taking a substantial toll on the BHS teachers, as noted above.)

All students – including the non-IEP students – in ICT classrooms in all BCSD schools seem to struggle, even the non-IEP students who were not in an ICT classroom the previous year, and were compared against their previous year's scores. (The support for this statement is a bit weak because all the possible confounds cannot be addressed, but it corresponds to my classroom observations.) This is because an ICT classroom typically has a relatively large number of IEP students and because some ICT math teachers seem to take a different approach to their classrooms simply because it is an ICT class; while some adjustments are necessary, ICT classrooms typically subjected all students to less constructivist-based instruction, and this difference appears to be larger at the lower grades.

Test – Curriculum – Standards Alignment

The alignment between the BCSD curricula – Investigations, Connected Math, and Core Plus – and the CCSS has been well documented by the publishers of those curricula. In particular, the content validity of these three curricula measured against the CCSS is quite high according to the publishers. A further pseudo-random sampling of the curricula and the CCSS, undertaken by the Evaluator, supports the publishers' claims.

However, there likely are issues surrounding the alignment of the CCSS and the CC-based tests. All the publicly available evidence, sparse though it may be, supports this claim; because the evidence is sparse, this claim is only moderately strong.

First, Grant Wiggins (2014), a noted assessment expert, recently wrote of his own analysis of the publicly available information surrounding the CC-based tests in New York. In it, he outlines 3 major objections to how these CC-based tests assess the CCSS: First, the distribution of assessment items does not appear to match the distribution of standards. Second, many of the items are computationally-, rather than conceptually-, intensive, making errors in computation (during a timed test!) able to significantly impact a student's grade. And third, the released commentary seems to treat all items as being similar, using a copy-and-paste mentality toward item assessment.

Second, the released analyses of the CC-based tests (NYSED, 2010), purporting to show the tests' reliability and validity, show a number of technical shortcomings. Two in particular are worth noting. The first, which occurs multiple times, is that the report mis-attributes relatively low *Cronbach's* α to the relatively small number of items on a subscale rather than to the large variation inherent in each item of the subscale (See, for example, the discussion that begins on p.

7 of NYSED, 2010). Although this is a technical issue, it is one that should have been noted and corrected by statisticians involved with the report.

Even more importantly, the so-called "strands" within a test should not be considered as scales at all: While the standards that are purportedly addressed in all the items of the strands are grouped together in the CCSS, it is well known that many of those concepts are not unidimensional when considering how students learn the concepts. In other words, there is no reason to expect that the items that are grouped together actually have anything to do with one another, and hence, the "strand" should not be considered as either a valid construct or a reliable measure of learning. The report, which is what is used to justify the validity and reliability of a test, fails to take into account the large body of research literature on how concepts are actually learned by students, and conflates concepts and skills which are not actually connected. Hence, it is the considered opinion of this evaluator that the CC-based tests should not be weighted more heavily than other standardized tests (e.g., MAP, ACT, SAT, etc.)

Long-term Impacts

Although it would be useful to know if there are long term consequences of the curricula – for example, does the way Investigations teach multiplication help or hinder a student's access to Algebra – there are too many confounding variables, even with the relatively large data set, to make such claims at this time. With additional time and additional information (probably in the form of lesson plans and teacher materials) such an evaluation could probably be completed. However, at this time, no such evaluation can be completed.

Recommendations

Based on the findings, I recommend the following actions:

Professional Development

The step most necessary to improve mathematics instruction, and the well-being of mathematics teachers, at all levels is to provide for substantial additional professional development. This development must be both in-depth and ongoing, and will likely require expansion of the current professional development structure. (Kimmel (1999) recommends that professional development of teachers requires an initial 40 hours with regular follow-up for 2 or more years.) While this should provide support for interested teachers to pursue professional development opportunities that require travel, the ideal professional development program will take place at the teachers' schools, and will include work during the school day in teachers' classrooms.

It is probably unrealistic to expect that a few teachers can receive in-depth professional development and then return to train the remainder of teachers; trainers typically have

substantially more time invested in learning a curriculum or pedagogy than a classroom teacher would be able to invest, and hence even the most well-meaning of teachers will perhaps not provide adequate professional development to their peers.

However, facilitators of professional development must be vetted very carefully, and must approach the sessions with an attitude of respect for all the BCSD teachers; given the divide between more- or less-constructivist-responsive teachers, this is an especially difficult task. However, given the diverse feelings of teachers toward prior professional development this may be the most important aspect of the professional development facilitator. Teachers must be placed above the curricula in this regard, particularly if a curriculum publisher is engaged to provide a facilitator.

Regardless of how professional development is provided, it must begin with an in-depth needs analysis that allows the teachers to articulate and explore their needs, and ultimately to set the agenda. Overall, the mathematics teachers in BCSD are quite good, and they should be trusted to know what they need. Facilitators or programs who do not listen and respond to the expressed needs of the BCSD teachers are likely to exacerbate problems while providing little benefit.

Given all of that, the four topics that will likely produce the most benefit to student learning are, in order from most to least important:

1. Training on inquiry-based, and constructivist-based, learning. This will help all teachers, although given the current diversity of teachers regarding their feelings, attitudes, and approaches, this training must work with what are effectively two different audiences.
2. Mathematics professional development for special educators. The special education teachers in the district largely have very little background in either mathematics content or mathematics pedagogy. This is likely to be of particular help at the high school level, where the mathematics being taught is at a higher level than what special education teachers are usually trained to assist with by their teacher preparation programs.
3. Training specific to the curricula used by BCSD. While some teachers have received extensive in-depth training on particular curricula (e.g., having gone to Western Michigan University for Core Plus training), other teachers have received effectively no training on the same curricula.
4. Both mathematics and special education faculty should receive additional training in identifying good instructional material and how to modify material, with particular emphasis on materials that will support struggling learners. While this would benefit all teachers, this would be of particular importance to BHS faculty, as their efforts to support struggling learners is hampered by their need to be better at these tasks.

In addition to professional development, BCSD should examine the use of math coaches and, at BHS, team or course leaders, and how those people can best support the entirety of the math

faculty. The amount of release time given to coaches, should be examined, with consideration to perhaps hiring full-time coaches (even if the time is split between two schools). Further, while the coaches must respond to the teachers' needs, there must be some additional clarity brought to their role, as there is not currently an adequate job description for the positions, and there is need to be more responsive to the diversity of teacher needs and attitudes.

Curriculum & Instruction

Although it is possible for teachers to better implement the existing curricula, no existing curriculum is going to adequately support all students. Hence, locally-produced or –modified materials will be required at all levels. Hence, I recommend that curricula choices should be made by considering the curricula as they would likely impact the majority of students. It may be worthwhile to continue looking for curricula that will support all students, or provide supplemental support for students who are struggling, but to my knowledge, there are not good supplemental curricula out there that fit into BCSD constructivist based philosophy.

It was regularly noted that in both staffing and scheduling, ELA takes precedence over mathematics. While staffing and scheduling are both constrained, finding additional mathematics instructional time, or at least better coordinating and integrating support services with the classroom teacher, is vital. Burris, Heubert & Levin (2006) described the success that one school district which adopted a more extreme version of the AIS structure in BCSD, and this may be one way to improve the use of instructional time. (In the district studied by Burris et al., students were scheduled into math classes every day, but had formal class meetings only 3 of every 5 days. On the other two days, a teacher could meet with any subset of her/his students as warranted.) In addition, a reconfiguration of current special education faculty would help alleviate a number of the ICT issues.

Struggling Student Support

Despite the overwhelming expressed commitment to teaching all students, the system of support for struggling students in mathematics appears very patchwork, clunky, and chaotic. I recommend that the entire system of providing support for students - including ICT, AIS, IEP, etc. – be reexamined, and efforts be made to address many of the findings listed above. This reexamination should look at the following in particular:

- Better use of ICT classes should be made. While I saw a lot of activity in ICT classrooms, several push-in teachers and aides, and heard much about it from the classroom teachers, I could not discern a clear pattern of support for students. The systems sometimes works, and sometimes doesn't, and largely seems to be driven by available staffing and scheduling rather than by a clear articulation of how to best support students.
- AIS must be better coordinated with the classroom teacher. While all teachers involved in AIS make an effort to coordinate with a student's classroom teacher, the process of

separating students from their classroom teacher probably produces a greater benefit than keeping the student with her/his teacher only in the cases where there is an ongoing conflict between student and teacher. (No such conflicts were immediately obvious to me.)

- Current practice is to place IEP students into ICT classrooms based on teacher availability. While such constraints are to be expected, it is worth examining the system of push-in teachers and aides to see if there are other approaches that can be used, or if additional special education teachers and/or aides can be hired.

Given all of these issues, it is, above all, vital that student support be re-examined holistically, and that the entire structure be revisited. While some of the pieces in place are quite good, the patchwork nature of student support, where needs are addressed as they arise, is causing more stress and expenditure of energy than is necessary.

Additional Data

It was noted at BHS that the results of college surveys - of alumni two years after graduating - are coming later in the year, but that these have only one question about mathematics. These surveys should be expanded and the questions about mathematics should be deepened, as the best data about whether BCSD students are “college ready” could come from those students’ college experiences.

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Statement Concerning Data

When the final evaluation report was submitted to Deborah Baker, the Evaluator, Bernard P. Ricca, deleted all copies in his possession of the data that were given to him electronically by BCSD. Additionally, the Evaluator deleted all data files in his possession that were created from the original data (e.g., data saved in .RData format).

The Evaluator deleted all copies in his possession of the audio recordings of the focus groups.

The Evaluator did keep the scripts used to analyze the data, an electronic copy of the report, emails, and all hand-written notes taken during focus groups, meetings with BCSD administration and teachers, and observations. These will be kept in a safe place for a period of five years, and then destroyed.

Appendices

There are two appendices for this report. However, due to their nature and size, both appendices are available only electronically; these have been provided via a USB drive.

Appendix A: Quantitative Data and Analysis
Appendix A is a zip-file that contains the original quantitative data and a copy of the *R* scripts used to analyze the data.

Appendix B: Audio Recordings

Appendix B is a zip-file that contains the audio recordings of focus groups held at CRPS, FRES, and TCMS. (No audio recording of the focus group at BHS was made.) The recordings from each group are available in both .WAV and .MP3 formats.