

## Mailbag for Math Adoption Committee Meeting on 1/7/10

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Sat 12/19/2009 9:45 AM

I am writing to express my strong support for adopting the Holt Series math textbooks. I am a parent of three children in the school district, and a 1984 graduate of Bellevue High.

For the past seven years I was a senior executive at RealNetworks, where my duties included overseeing the company's international division. Seeing the rapidly expanding technical capabilities of young people from many other parts of the world has forced me to recognize that our children must regain their technical competence if they are to have any chance in the job market. I have reviewed both the Holt and Discovering math textbooks, and am confident that Discovering will be a disaster for our children in this regard. Rather than requiring the students to implement math algorithms and prove theorems, it often uses descriptive approaches that allow the student to feel like they understand even when they don't.

My concern applies not just to the needs of future software developers. The critical thinking enabled by serious math is the foundation for basic competence and competitiveness in many other fields, such as medicine, medical and health research, engineering, accounting, and general business. Even marketing, which many people assume to be a "soft" discipline, is increasingly becoming a math based field as marketing dollars move to the Internet, where they can be tracked and analyzed mathematically. I would encourage you to find out how marketing is actually done at companies like Amazon.com, Microsoft, Real and Expedia: it's largely based on serious math where the correct answer is often not the one that "feels" right. People get fired for getting this stuff wrong.

I realize that some people advocate the Discovering series because they believe it will somehow enable a greater range of our students to perform better in math, and hence will help in terms of "equity." There are two major problems with this thinking: 1) Discovering has not been shown to improve performance of disadvantaged students over a sustained period, or to close the gap with other students; 2) Discovering is certain to lower the average performance of the rest of the student body.

Many people move to Bellevue, and many volunteer significant time and donate substantially to the PTSA, because of the importance of education and the reputation of our school district. Without a nationally and internationally competitive math program that reputation will be impossible to maintain.

Regards,

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Tue 12/15/2009 11:29 PM

To whom it may concern,

We strongly believe the current curriculum layout (especially in Math and Science areas) need to be entirely revised.

We were pleased to hear about the possibility of changing the books for the coming year. However, it is unfortunately too late for our kid to experience the new books.

We feel obligated to share our story and opinion about what we have experienced with the Math books used by the Bellevue District.

It has been a very discouraging experience for us and our child coming from a family of engineers and doctors, end up suffering in Math and Science classes because of the confusing text books with no clear directions.

My spouse and I are both professional engineers and instructors in Math and have taught highly technical topics for many years. We both have found the 3A, 3B, 4A, and 4B Math books, titled as " Contemporary Mathematics in Context" to be among the most confusing sets of Math textbooks ever to teach from.

These text books are

- so wordy,
- out of order,
- out of context,
- full of irrelevant information,
- non-practical,
- very confusing layout,
- all consisted of lengthy and often wrong explanations of concepts,
- provide no clear direction and examples, and
- They are more like an English literature book than a Math book.

The books, randomized handouts, lack of teacher / student interaction in classes, and use of too many substitute teachers all year round who are unfamiliar with the topics have not only confused my kid but have created a long term negative impact towards learning these subject matters.

We hope you are able to come up with not only better books but also try to hire better teachers who have mastered the topics and are willing to reach out, correct, and answer the students questions in a timelier manner.

In order to build a better future for our children, it is the District's prime responsibility to help the students to get excited about Math and Science - and not discouraged.

Thanks,

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Tue 12/15/2009 2:35 PM

I'm writing concerning the textbook adoption in the Bellevue school district. I have two sons in the Bellevue school district, one at Interlake and one at Bellevue High. They both have been in the district since elementary school and have both done Core Plus. I was happy to hear last year that the school district adopted a new curriculum for the elementary schools. I did go at the time to the district office to review the proposed elementary books. I did not care much for TERC investigations and liked Math Expressions much better. Unfortunately, the changeover was too late to benefit my children. For the new adoption, I would like to express a preference for Holt and not for Discovering. I actually bought a set of used "Discovering" books on eBay to be able to evaluate them. What I noticed is that the material covered is quite basic and seems mostly a repeat of what has been covered in middle school. Furthermore, there seems to be a lot of emphasis on calculator usage and data processing. While these books are not the latest edition, I don't think that my overall impression is invalid.

"Discovering" spends a lot of time on explaining what numbers mean - through graphing, calculating, tabulating, drawing etc. This is important, however, to unlock the power of math, it is necessary to increase the level of abstraction. Students need sufficient practice to gain facility with algebraic manipulations. This starts with fractions and is required to do well at calculus. Considering that the goal in high school should be preparation for college, I believe Holt will provide this more effectively. Furthermore Holt is also a curriculum recommended by OSPI. I was trained as an engineer and I have worked in the technical software industry for nearly 20 years. From my experience, I can say, that without a mastering of algebra, such technical careers will not be accessible to our students.

Regards,

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Tue 12/15/2009 8:48 AM

We'd like to urge you to adopt the Holt Algebra-Geometry series as the new HS math text in BSD, since it is the only curriculum that is recommended by both OSPI and SBE.

Regards,

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Mon 12/14/2009 4:55 PM

My vote is for the HOLT series for our students. It is very important for the future of our students to have a decent math program, please select HOLT.

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parent of high school and middle school students in Bellevue

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Mon 12/14/2009 11:27 AM

Hello,

As a parent with a child who will someday use the text, I'm requesting that you choose Holt as the high school math series.

I've personally chatted with the Office of the Superintendent of Public Instruction. They are very specific. Holt best aligns with the new state standards. They say Discovering is mathematically unsound and does not meet the standards.

They are quite unequivocal about this. So is the state board of education. Thanks for your consideration.

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Mon 12/14/2009 10:44 AM

Please choose Holt.

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Mon 12/14/2009 9:44 AM

I have a Sophomore at BHS and an 8th grader at Chinook. Both are strong math students that have had to overcome the challenges in the BSD math curriculum that has focused on weak math students. Although I have seen some improvement in the curriculum over the past five years it still significantly hampers talented math students.

As you consider new math textbooks, please accept my strong recommendation for the the Holt series to improve the math curriculum at BSD.

Thank you.

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Mon 12/14/2009 7:46 AM

As a parent of two sons (7th and 9th) I would like to add my suport to the *Holt* series as the next text choice for the BSD.

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Mon 12/14/2009 7:34 AM

I would like to encourage you to select the Holt series for the new High School Math text books. From what I have heard and seen, this appears to be the most helpful understandable to our students./

Sincerely,

\*\*\*, mother of 2 Bellevue High Schoolers

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Sun 12/13/2009 9:47 PM

To whom it may concern,

As two concerned and involved parents of a 9th grader at Bellevue High and a 7th grader at Chinook Middle School, we strongly desire to cast our vote in support of "Holt" as the new high school math textbook series to be adopted by the Bellevue School District. We and our kids have been frustrated for years by the "inquiry"-based method of math instruction that the Bellevue School

District has employed for the past several years. For the sake of our kids' future success in college and the working world, we believe it is imperative that the Bellevue School District switch immediately to a method of math instruction that utilizes teacher-taught examples and emphasizes computational mastery of objective math skills. Thank you for allowing and considering our input in this crucially important process.

Very truly yours,

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Fri 12/11/2009 2:17 PM

Thank you for the opportunity to review and comment on the two finalists in the high school mathematics textbook adoption process. After my hour-long review of the two different series, I'm firmly in favor of adopting the Holt series over the Key Curriculum series for a number of reasons. Before listing those reasons, I must admit I have a certain bias created by two experiences. One of those experiences is that both of my boys have used and struggled with the current materials in the BSD math curriculum, especially the pre-calculus course material offered at Interlake HS. Both highly intelligent and quantitatively aware, they struggled mightily with the more conceptual presentation in the current series. So much so that I needed to help them both by purchasing additional tutoring services and giving them access to more traditional text-based materials. The other experience influencing my perspective is that I am a long-time publishing professional for college level course materials. I have seen first-hand the debate regarding a traditional (i.e. skills-based) approach vs. a more modern or reform (conceptual) approach--and everything in between--in the teaching of mathematics, particularly in the elementary and intermediate algebra courses offered at the community colleges. Hearing these discussions about the presentation and teaching of mathematical concepts and seeing the results of the various approaches, I have determined that the best solution for our students is one that takes the best of both the traditional and reform worlds and applies them in a clear and useful manner.

From these experiences, then, I conclude that there is only one viable choice for our students in BSD and that is the Holt series for the following reasons:

- 1) We have a diverse mixture of students in our high schools, wide ranging in English language facility, cultural background, socio-economic status and breadth and depth of mathematical preparation. With that, we need a series that offers a wide range of skills-oriented, conceptual and applied examples and exercises. While I don't have a specific numerical count of the numbers of exercises and examples, it appears to me that the Holt series has considerably greater range than the Key series, especially when you looked at the more procedural/review exercises.
- 2) We have a diverse mixture of teachers in the BSD as well, with varying levels of experience and facility with the various approaches to teaching high school mathematics. Again, I suggest that having a math series with a wider-range of examples and exercises will benefit a wider-range of instructors. Those who are more comfortable with a traditional explanation of topics will have access to that approach with the Holt series, as well as more robust and conceptual activities to use in class for group or individual work. This holds true for those more comfortable with a conceptual presentation. They have those resources in the Holt series, but can also draw upon topic specific skill exercises to reinforce those concepts in that fashion. In sum, the Holt series offers choices for our faculty to teach in the best fashion that matches their expertise and their students' needs.
- 3) Because learning mathematics is in part the process of learning the "language" of mathematics, I appreciate the specific vocabulary coverage in each chapter of the Holt series, as well as the translation exercises which directly showed how to translate mathematical notation into verbal language.
- 4) Test taking and doing well on assessments is a fact of academic life, both in high school and in college. Seeing my boys struggle with test-taking, especially in mathematics, I appreciate the sample tests/quizzes and the study helps and test prep hints/exercises integrated throughout the Holt series. High school math is a place where (I think) one needs to master not only the mathematical content, but the process by which one learns to think critically about and solve mathematical problems. I liked the sections on problem solving that were highlighted in the Holt series.
- 5) While I see the value in learning the use of the graphing calculator, I think the emphasis currently placed upon the use of the graphing calculator does little more than hinder conceptual understanding of algebraic concepts. My older son is currently repeating

pre-calculus at Washington State University and he mentioned the biggest difference between his high school course and his college course is that his college course eschews the calculator for paper-and-pencil exercises. He's finding that his algebraic skills are improving from that practice. That in mind, I see an over-abundance of graphing calculator exercises in the Key series to the extent that it seems like the series is calculator-dependent. I prefer the more calculator-independent approach found in the Holt series.

6) Lastly, I think that the choice of any curriculum materials should consider equity and access issues. To that end, any program requiring the use of a graphing calculator burdens those who can least afford that technology. Yes, I know that there are free calculators available to check out, but checking out a calculator is not the same as having a designated calculator tool at your disposal at any time. Additionally, any math series that is dramatically different from that which outside tutors and parents are familiar, makes it harder to get at-home help for students. I recall having trouble finding tutors who were familiar enough with the current math program in Bellevue to offer any help to my own sons. The Holt series seems to do a good job of bridging the gap, offering a full range of explanations of mathematical concepts that can be interpreted and addressed easily by tutors, parents and those outside the school walls.

In summary, then, I strongly encourage the adoption committee to consider adopting the Holt series. While I do take issue with some of the design elements in the series, the range of exercises and examples, the focus on language, the reinforcement of problem-solving and range of applications, along with the supporting learning devices make this series the best option for our students as they prepare for college.

Thanks again for your active solicitation of feedback on this adoption process. This BSD parent appreciates the opportunity to be involved.

Sincerely yours,

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Fri 12/11/2009 9:40 AM

I sent this last week and heard it was distributed to the committee last night without the attachments, and that there were not enough copies for all in attendance. Please distribute it with attachments and enough for each committee member to receive a copy.

Thanks,

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**From:** \*\*\*

**Sent:** Tuesday, December 08, 2009 10:30 AM

**To:** 'MathAdoption@bsd405.org'

**Subject:** Holt vs. Discovering

Dear BSD HS math selection committee,

There are many reasons I favor the Holt math texts over Discovering. Some are based upon the learning experiences of my 2 children, and others are based upon the nature of Discovering and its failure to make a dent in the achievement gap in the Lake Washington School District, where we used to live. I have attached a graph prepared by Dave Orbits showing insignificant reduction in this gap since Discovering was phased in, beginning in 2004. It should be noted that San Diego School District adopted Discovering and discarded it after only 2 years because it failed to address their achievement gap. A chart showing their data is also attached.

I have heard it said that Discovering is not the problem, that other issues are at play-- for example, teacher buy-in and/or lack of professional development. I heard these exact same excuses from reform math guru, Virginia Stimson in response to concerns I had about the deficiencies of TERC. And by now most are willing to admit that TERC is an extremely weak math program. The problems have nothing to do with teachers. They have to do with the enormous lack of math content and the confusing discovery methodology.

This was most certainly true for my 2 children, both of whom fell deeply into the achievement gap, thanks to TERC. We moved to WA from CA four and a half years ago. In CA my son was above grade level in math and considered it one of his 2 favorite subjects, Science being the first. Within half a school year in a Lake Washington TERC classroom he hated math and thought of himself as stupid. This worsened over the next several years. He never passed a math WASL. In his TERC classrooms he was not taught or allowed to do math as he knew and loved it. Instead it was a laborious and confusing process of devising and explaining strategies without ever knowing if he was on the right track. Last year he failed CMP2 7<sup>th</sup> grade math in a BSD middle school. He had completely lost interest in these classes where he couldn't engage in ways that worked for him, and he wasn't learning a thing.

He is now in a private school where they tested him thoroughly and found his math computation skills to be approximately 3 years behind grade level. His math comprehension is still several years above grade level, as it always was. TERC and CMP2 cannot be credited for this. They can, however be blamed for his lack of computation skills. His teachers were not allowed to teach multiplication tables, long division, double digit multiplication, how to find common denominators, or convert fractions to decimals. He is now learning all the basic skills and repeating the pre-algebra he failed to learn last year in CMP2. By the end of 8<sup>th</sup> grade he will have completed a very solid Algebra 1 in this private school.

If BSD adopts Discovering I will not place him back in this district. My daughter has an IEP and takes Special Ed math in BSD. She is learning solid math in a direct and unambiguous manner. It will serve her well, but I fear she will soon test out of it. This will cause another crisis for us, since she too failed to learn any math whatsoever in the confusion of discovery-based classes. I will not put her in a Discovering classroom.

Because Discovering has been used in Lake Washington for several years I have heard much about it. I run a math tutoring business with a number of parents in LWSD. We support students who are learning little in Discovering classrooms, and hear about its problems from many parents. Like other discovery-based curricula, it is verbally driven and requires good reading and writing skills. Students with good language skills can write their way through and learn very little math. Very typically, they get good math grades and then fail college math placement exams and are required to remediate. I cannot tell you how many times I've heard of this from parents. Discovering works against students who are not good readers and writers, and most especially those who are learning English. These students tend to do very poorly. It frustrates students who have a natural facility with mathematical language in the form of equations and algorithms. It is boring for highly capable students. I have not heard of any parents or students who think highly of Discovering.

The issue of mathematical soundness is very significant. Many are dismissing the final review done at the state level by Strategic Teaching, solely because the review done by OSPI reached a different conclusion. This makes no sense. The OSPI review was done for the very purpose of negating the Strategic Teaching review so that Discovering would be one of the recommended curricula. Dr. James King who reviewed Discovering for OSPI is on the payroll of the company that publishes it. Dr. George Bright was the other reviewer and he was an employee of OSPI at the time, with an unquestionable bias toward the curriculum. Neither Bright nor King reviewed Discovering-Geometry because it ranked too low to be considered for final recommendation by OSPI. And yet their review gives the whole series a thumbs-up for mathematical soundness. In spite of their efforts to override the "mathematically unsound" grade given by Strategic Teaching, Randy Dorn did not recommend Discovering. Why? Because the Strategic Teaching review was done by 2 mathematicians who had no vested interest in the OSPI recommendations. And they have no ideological bias. Their review was based upon the mathematical content of the texts. Dismissing their review shows ideological bias and an unwillingness to address current problems in math education. Mathematical soundness goes to the heart of them.

A mathematically sound curriculum such as Holt can be taught in a highly interactive mode that keeps students engaged, while also developing the levels of proficiency they will need. A mathematically unsound curriculum such as Discovering will require enormous amounts of supplementation in order to teach the content students need to become proficient. And given the time consuming nature of the discovery process it's unlikely that adequate supplementation will occur.

If Discovering is adopted we can expect little change in the achievement gap. Professional, higher income parents will continue to have their children tutored at current rates, which are very high. Low income parents will continue to be unable to assist their children, who will be mastering very little math in the classroom.

If Holt is adopted we can expect to see improvements over time. But there will be a need for remediation of students coming out of CMP2 who had TERC in elementary. Many of these students do not have basic math computational fluency, and this will make it

very difficult for them to succeed in high school algebra and geometry. However, if remediation begins immediately they will be able to succeed in high school and will be adequately prepared for college. Without remediation prior to college many will fail college math placement tests – whether Holt or Discovering is adopted. This is the sad and sorry price they are paying for the failed experiment of curricula such as TERC and CMP2.

If Bellevue School District wants to close the achievement gap there must be a program to develop a strong foundation of basic math skills. This should be put in place at middle and high school levels as soon as possible. Even students who have succeeded in TERC and CMP2 classes lack basic math skills unless they have developed them outside of school. Those who fail are most certainly lacking in the essentials. It is highly unreasonable to expect them to master any real algebra or geometry without these skills. Adopting a mathematically weak curriculum, such as Discovering may help some of these students get better grades in high school. They will be allowed to use calculators to hide their lack of basic skills, and will score points for well written explanations without mastering solid mathematical knowledge. This will postpone a crisis for many students who will think they are doing well until they fail their college math placement exams. If this seems unfair criticism I would encourage you to look with a clear eye at what is happening in Lake Washington School District. It is highly unfair to our children to impose upon them a math program that will take up their time without providing them with the skills they need to succeed.

Sincerely,

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**No improvements to the Achievement Gap or for any group of disadvantaged 10th grade students in Lake Washington School District WASL scores since adopting *Discovering Algebra-Geometry***

Lake Washington School District started phasing in the *Discovering* series in 2004 with Algebra; adding Geometry in 2005 and Advanced Algebra in 2006. 10<sup>th</sup> grade WASL scores improved only slightly since 2004. Single year rise in scores reversed in following years. ~~There was no reduction in the overall Achievement Gap in any year since adopting *Discovering*.~~

