



20 October 2014

**A Representative Letter from a Batavia Parent on Acceleration in Mathematics and
A Summary of Findings from the Professional Body of Research on
Best Practices in Education for Gifted Mathematics Students**

A letter from a parent is included here to give voice to concerns that are being commonly expressed by parents of gifted elementary Math students across the district. It has been reprinted in an anonymous form with the parent's permission.

Letter from a Parent of a Batavia Fourth Grade Student Concerning Acceleration

I'm writing in response to your request for input on the new math curriculum. I do have a couple concerns and I'd like to share some of my thoughts on the subject.

When we first heard of the gifted program, and it was suggested that our son completely skip third grade math, my initial reaction was to wonder how he could simply skip a whole year of information! While he does soak up information pretty quickly, he also pays close attention to every detail, so skipping all that information and all those details worried me. I expressed my concern to [our building's gifted coach], and she told me how that information would get filled in along the way as he learned the 4th grade math. It still seemed odd to me, but I trusted in the process. One year later, as we start 4th grade (and 5th grade math), I attend a meeting for gifted parents during the curriculum night. At this meeting, [our gifted coach] states several times that it has been determined that this process of skipping a grade has many flaws and they are finding that the children have significant learning gaps and are struggling! So now, they are going to change how they do things and try a better approach, and I couldn't agree with this more! However, the now 4th graders will just continue on with the way they always have been, the way that doesn't seem to be working out the best, and they'll just have to figure it out along the way. That was the message that I heard, and it seemed a bit unfair to me for this particular group of students.

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So, they go full steam ahead with pure core curriculum (while it was my impression that everyone else in 4th grade gets a more gentler approach of easing them into the core curriculum by mixing in some everyday math). Some of the things they are covering that the teacher states they should know, my son says he has never seen before (not a surprise). But he works through it, and hopefully will continue to do so. However, I think there could be a little more "eased in" approach for them as well, or more of a supplement to help with the transition. Because, not only are they dealing with the "gaps" and a whole new curriculum, but this new curriculum is constantly asking them to repeatedly show their work, which is almost always a difficult thing for the gifted child. This brings me to my other major concern. I do agree that "showing your work" is important in helping to understand the process and is necessary ... some of the time. For these students, when they already understand the process and they have to show the work, the same work, over and over and over, it simply becomes something they dread and something that frustrates them.

I have noticed a change in my son's enthusiasm for math this year. Believe it or not, he used to look forward to doing math homework and learning new math concepts. Now he hopes for no homework, he procrastinates doing the homework, and there is visible frustration almost each time. I know this is normal, and it also could just be the age he's at, but it's hard not to wonder if the curriculum changes are some of the reason for this new negativity. I just don't want him to lose that love of math and the enthusiasm to learn math.

My concern is that this small group of students might get somewhat lost "in between" the old and the new ways of doing things. I know that change is hard for everyone, and can be especially difficult for a gifted student. I just hope that it is recognized that each student is dealing with these changes in their own way and they will all deal with it differently. The same changes are not always best for every person. The school has always been good at recognizing the needs of each student, and I really hope they continue to do just that with these changes taking place.

Thank you [CANDO School Liaison] for sharing my concerns, and for being the voice of many parents!

Summary of Information in the Professional Body of Research on the Topic of Best Practices in Education for Mathematics Instruction of Gifted Students

A thorough review of the professional body of research yields a multitude of approaches to instruction in Mathematics for gifted students. However, the approach that is best supported by research is acceleration.

It is acknowledged here that the new Common Core State Standards guidelines are decidedly against acceleration. However, these guidelines were developed to inform the formation Mathematics instruction practices that best serve the vast majority of students, or typical learners. As CANDO's purpose is to advocate for and support the unique needs of gifted and high-ability learners, we wanted to look at what educational practices best meet their learning needs.

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As the letter above illustrates, there are problems which are recognized in the literature reviewed with whole grade level acceleration when no effort is made to give accelerating students exposure to and an opportunity to master new concepts in Mathematics. CANDO has never been a proponent of pure acceleration without “bridge work” or exposure to concepts that would later become significant gaps in knowledge for Math students who accelerate. Rather, CANDO has long proposed that teachers provide experience with concepts that would be “missed” in the acceleration process.

In the past, in the Challenge Math program, summer “bridge work” packets were provided to students for completion over the summer. *Under the new CCSS requirements and ISBE recommended curriculum structure, it should be much simpler for teachers to construct lesson plans that provide experience with concepts that would be “missed” in acceleration, so that anticipated gaps do not occur.*

As the literature reaffirms, gifted students learn new concepts in Mathematics much more quickly than their typical learning peers, and require much less repetition of new concepts to gain mastery. Curriculum compacting, correctly implemented, is a viable means to accelerate gifted students. Gifted Math students do not magically absorb unfamiliar Math concepts without exposure, and should not be expected to do so by skipping whole grade levels of instruction.

Therefore, CANDO’s long-held position regarding the need for acceleration in Mathematics for gifted students has been upheld in the professional body of research and deserves attention and implementation in any lesson planning for gifted Math students at any level of education in BPS101. ***We re-iterate here that acceleration that includes curriculum compacting and “bridge” opportunities is the best practice in education for gifted learners in Mathematics.***

Articles that discuss acceleration and its benefits to gifted learners, as well as the detrimental effects of not accelerating the learning process for gifted Mathematics students

Greene, Buck and Tracy L. Cross. “Setting the Bar for High-ability Students”, National Association of Secondary School Principals: Principal Leadership, Vol 14, Oct. 2013.

http://www.nassp.org/tabid/3788/default.aspx?topic=Setting_the_Bar_for_High_Ability_Students

Key points: The Common Core was designed and constructed within the confines of grade-level expectations. Assessments to measure student progress and success are similarly oriented and limited to grade-level expectations. Developers of Common Core “did not define the intervention methods or materials necessary to support students who are well below or well above grade-level expectations” (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010).

National Association for Gifted Children, “Frequently Asked Questions about the Common Core and Gifted Education”, <http://www.nagc.org/resources-publications/resources/timely-topics/common-core-state-standards-national-science-0>

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Key points: Discusses research support for differentiating the CCSS for gifted learners. Outlines approaches to use in differentiating Mathematics standards and assessments. Discusses implications for professional development. Lists resources available to assist with the implementation process.

National Association for Gifted Children, “Position Statement: Acceleration”, 27 Sept. 2004.

<http://www.nagc.org.442elmp01.blackmesh.com/sites/default/files/Position%20Statement/Acceleration%20Position%20Statement.pdf>

Key points: More literature supports acceleration than any other intervention. Benefits associated with acceleration include increased motivation in schooling, increased involvement in extra-curricular activities, involvement in more challenging options in middle and high school is promoted, and preparation for contribution to society at an earlier age. Acceleration should be offered at each stage of development in a child’s education—beginning at early entrance to primary school up through early college entry. Factors that enhance the success of acceleration are listed.

Phillips, Simone. “Are We Holding Back our Students That Possess the Potential to Excel?”, *Education*, 129:1, 50. <http://www.questia.com/library/journal/1G1-184133019/are-we-holding-back-our-students-that-possess-the>

Key Points: Discusses several types of proven acceleration strategies.

Swiatek, Mary Ann. “A Decade of Longitudinal Research On Academic Acceleration Through the Study of Mathematically Precocious Youth”, *Roepers Review*, 24: 3, Spring 2002 , 141.

<http://www.tandfonline.com/doi/abs/10.1080/02783190209554162#.VEU1wPnF-So>

Key Points: Study of Mathematically Precocious Youth (SMPY) supports acceleration. Conclusions of the study are that acceleration is easy to implement, there is no harm academically or in terms of psycho-social effects to accelerates, accelerates more readily identify their future career of interest (especially in Mathematics fields).

Wells, Ryan and David Lohman, Maureen Marron. “What Factors Are Associated With Grade Acceleration? An Analysis and Comparison of Two U.S. Databases”, *Journal of Advanced Academics*, 20:2, Winter 2009, 248-273.

http://www.accelerationinstitute.org/research/grade_acceleration_wells_lohman_marron.pdf

Key Points: Examines 18 forms of whole grade-level acceleration

Resources for Educators

A Teacher’s Guide to Using the Common Core State Standards with Mathematically Gifted and Advanced Learners

<http://www.prufrock.com/A-Teachers-Guide-to-Using-the-Common-Core-State-Standards-With-Mathematically-Gifted-and-Advanced-Learners-P1899.aspx>

Using the Common Core State Standards for Mathematics With Gifted and Advanced Learners

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<http://www.prufrock.com/Using-the-Common-Core-State-Standards-for-Mathematics-With-Gifted-and-Advanced-Learners-P1657.aspx>