

Math All Year Long - Critique of Admin Report (2008)

To date the Peel DSB has resisted any change to the delivery format for Grade 9 & 10 Math citing previous reports prepared by Cathexis¹ and a report by Superintendents C. Waterman and J. Nyman prepared on behalf of the PDSB administration in 2008 (Admin Report²). In my assessment these reports appear to be less than adequate and inaccurately assess the benefits of a move to Year Long format for Math in these grade levels.

I take issue with the Admin Report for the following reasons discussed below.

In the opening sentence of the tabled report it states:

*'Based on the **research** and the current level of responsiveness by schools to maximize student success, the administration does not support the Board motion' [emphasis added:ST].*

The research cited in the Admin Report refers to three (3) academic studies³ in support of the its conclusion.

The PDSB Administration cites these studies in support of Semestered vs. Non-semestered school organizations. In fact, the study by Kramer - Part I, points out that the benefits of 'semestered' schools are found to be true for both 'Intensive/Full Block Scheduling' (4 x 4 Block) and 'Alternating Day' (A/B Scheduling). Trustee Steve Kavanagh's Motion in 2008 was to treat Math and Phys. Ed. as an 'A/B Schedule' within an otherwise 'Intensive Block' schedule. On this point, the Admin Report serves to 'muddy the waters' and leads to confusion on just what the point of the motion was in the first place.

The Admin Report states: *'On the critical issue of 'content loss' between semesters, the studies indicated that students with an extra semester time gap did have more difficulty recalling recently learned concepts, but they recovered quickly during the subsequent math course, typically within a couple of weeks'.*

The phrase, *' typically within a couple of weeks'* is not supported by the cited studies and therefore appears to be speculation by the authors.

In Kramer - Part II, the study discusses what is at the heart of the Motion in the section entitled, **'Retention of learning after a gap in sequential instruction'**. The study reports on Grade 10 students that have had differing time gaps:

"Although there were no differences among the three groups on the basic skills subtest, the second semester group (i.e. the group with the longer time gap) scored lower than the other two groups on the algebraic skills subtest"

The Kramer study does go on to say: *" By the end of grade 10 instruction, the second group had caught up with the other two, so there were again no differences in test scores on either subtest."* and then adds: *"Over the longer term, there were no negative effects"*

I challenge these statements. Firstly, the students with the longer time gap were put at a disadvantage compared to their peers. They were subjected to an added stress factor needlessly, since as per the Motion the 'Gap' can be eliminated and students would benefit from all the attributes of the 'Semestered' schedule (ie. either A/B Schedule or 4x4 Block).

Secondly, Kramer later adds a caveat to the issue of longer term effects:

*" ... but this will **probably** have no long-term negative effects on student learning. However, this conclusion is very **tentative**." (Emphasis added;ST).*

This statement regarding long-term effects is simply speculation on the author's part.

The Kramer study does not discuss issues such as transfers to 'Applied' level math from 'Academic' level either within the year or for the following grade. Kramer does not discuss the role of parent's contracting private after school tutors as a factor in assisting 'Longer Gap' students to catch up to the other groups. These trends are realities in Peel Schools.

The other study cited by the Admin Report is the paper by S.J. Zepeda and R.S. Mayers, **An Analysis of Research on Block Scheduling**. This is an overview of studies comparing Semestered (Full Block 4x4 and A/B Schedule) and Traditional Non-semestered systems. When math was specifically examined, almost all of the cited research papers favoured the Traditional year long delivery of math over the Full Block 4x4 system. The Zepeda & Mayers paper is not supportive of the Peel DSB's opposition to the adoption of Yearlong Math paired with Phys. Ed in an A/B Schedule format.

Furthermore, the Admin Report acknowledges that Math is subject deserving of increased focus:

*'As Peel secondary schools establish their Greatest Area of Need (GAN) through school success planning, a significant number have identified "students at risk" of not earning 8 credits in grades 9 and 10 as the greatest area of need. **Mathematics is one of the subjects for which these students are most likely to not earn a credit...**' (Emphasis added;ST).*

Conclusion:

This analysis of the Admin Report demonstrates that conclusions reached are not fully supported by the cited research. There exists a need for further study of the benefits of teaching Math in a A/B Schedule from a qualitative and quantitative view point.

References:

¹ **Evaluation of Full Year and Semestered Mathematics, Draft Final Report**, January 30, 2012, Cathexis - Toronto, ON, www.cathexisconsulting.ca (C. Hauseman, R. Zorzi, K. Paul)

² **Administrative Report regarding the Notice of Motion to implement non-semestered Grade 9 Mathematics and Physical Education courses in semestered secondary schools.** PDSB, Regular Meeting of the Board, 10.5 /October 28, 2008. Prepared and Submitted by: C. Waterman and J. Nyman. (Admin. Report)

³ The Administrative report issued by Waterman & Nyman references three (3) research studies.

- a) -**What We Know About Block (Semestered) Scheduling and Its Effects on Math Instruction, Part I** Steven L. Kramer
- b)-**What We Know About Block (Semestered) Scheduling and Its Effects on Math Instruction, Part II** Steven L. Kramer
- c) - **An Analysis of Research on Block Scheduling.** S.J. Zepeda and R.S. Mayers.

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