

PEEL DISTRICT SCHOOL BOARD

Minutes of a meeting of the Instructional Programs / Curriculum Committee of the Peel District School Board, held in the Brampton Room, the H. J. A. Brown Education Centre, 5650 Hurontario Street, Mississauga, Ontario on Wednesday, November 20, 2013 at 18:00 hours.

Members present: (apologies for lateness received)

Sue Lawton
Harinder Malhi
Janet McDougald (18:30)
Suzanne Nurse
Jeff White

Members absent: (apologies received)

Rick Williams, Chair
Beryl Ford

Administration:

Shawn Moynihan, Superintendent, Curriculum and Instruction Support Services
(Executive Member)
Jeff deFreitas, Superintendent of Education, Early Years
Hazel Mason, Superintendent of Education
Pat Rossall, Superintendent of Education, Alternative Programs

Nicole Fernandes, Board Reporter

1. **Approval of Agenda**

In the absence of Chair Rick Williams, Trustee Sue Lawton chaired the meeting.

IP-47, moved by Suzanne Nurse, that the agenda be approved.

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2. **Conflict of Interest**

There were no declarations of conflict of interest.

3. **Minutes of the Instructional Programs / Curriculum Committee Meeting, October 16, 2013**

IP-48, moved by Harinder Malhi, that the Minutes of the Instructional Programs / Curriculum Committee Meeting, held October 16, 2013, be approved.

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4. Celebrating Faith and Culture Backgrounder – November 2013

IP-49, moved by Jeff White, that the report re Celebrating Faith and Culture Backgrounder – November 2013, be received.

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5. Supporting Numeracy Through the Teaching and Learning of Mathematics in the Peel DSB

Superintendent of Curriculum and Instruction Support Services, Shawn Moynihan, noted that the focus of today’s meeting is on teaching and learning of mathematics. He invited Jill Ott, School Effectiveness Leader, and Mary Fiore, Instructional Coordinator for Mathematics Literacy, K-12, to provide information on the comprehensive numeracy program to support the teaching and learning of mathematics.

Jill Ott advised that much of the attention to mathematics is linked to Peel’s EQAO scores, however, EQAO does not provide the full picture of strengths and weaknesses of students. She described the work Kim Bennett, Research and Accountability Officer, in providing insight into areas in which students are performing well and are having challenges. In the context of EQAO assessments, it was noted that students do well on multiple choice questions but not so well in the area of problem solving. Jill Ott explained the aspects of thinking in the mathematics curriculum, including using mathematic skills, plans for solving problems, using creative process, etc. She guided the Committee through an interactive EQAO task, and then described how the assessment is scored.

Mary Fiore provided information on the comprehensive numeracy program, explaining the difference and role of basic number facts and number sense. She stated that there should be a balance between the two, and she noted that knowledge of basic number facts is essential. The document circulated, that included an editorial from Marian Small, highlighted the balance between the two, and why the issue is not an “either / or” situation. Reviewing PowerPoint slides, Mary Fiore highlighted the three-part lesson framework to support teachers in developing activities that consolidate students’ thinking. Students can engage in and investigate richer tasks, teachers are listening and assessing, and the consolidation phase takes place when teachers determine what students have learned. Aspects of the mathematics curriculum are blended into the three-part lesson and there are opportunities in all three phases to assess students and respond to their needs. Mary Fiore pointed out the importance of observations and conversations with students in order to get a sense of students’ progress, which then drives instruction. The Committee participated in another mathematics exercise.

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Trustee Suzanne Nurse retired from the meeting at 18:40 hours.

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IP-50, moved by Janet McDougald, that the oral report re Supporting Numeracy Through the Teaching and Learning of Mathematics in the Peel DSB, be received.

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6. Professional Learning Focus for Effective Numeracy Instruction and Assessment

Jill Ott explained that Numeracy Theory of Action is based on the cause and effect principle. She noted that, by supporting teachers to use rich tasks with clear success criteria based on curriculum expectations, there will be positive outcomes for students. Students will become more competent in problem solving and consolidate their thinking through different approaches. Jill Ott noted that the school effectiveness framework guides the learning. She highlighted the evidence based document which reveals behaviours when students are achieving high levels of numeracy, such as, perseverance to solve problems; connects concepts and procedures, connects knowledge to problems; develop and apply reasoning skills; engage actively with others; reflect on and monitor thinking; making cross connections. She stated that these can occur if learning of mathematics is positively framed and risk taking is the norm.

Jill Ott reported that professional learning includes multiple collaborative inquiries, such as: K-Grade 6 mathematics; cross panel Grades 7-10 mathematics; professional learning and job embedded action in contained classes; collaborative inquiry learning with student work study teachers. She indicated that Board staff are working with Marian Small to introduce the utilization of technology in contained classes. With regard to the K-Grade 6 Peel in Work 2013 broadcast on Twitter, Jill Ott explained that information is streamed out to teachers with a focus on effective mathematics instruction. She reported that the student work study teachers are noting practices in outlier schools that have high EQAO and high Social Risk Index scores.

IP-51, moved by Janet McDougald, that the oral report re Professional Learning Focus for Effective Numeracy Instruction and Assessment, be received.

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7. Supporting Student Achievement and Success: Student Work Study Teachers (SWST)

Shannon Beach, Janet D'silva, and Salima Khan, SWST, were introduced, and they presented information on teacher research being conducted to support improving student achievement and learning of mathematics.

An overview of the Ministry's SWST initiative was provided, which includes five SWSTs in Peel schools. The SWSTs work together with the classroom teachers through the process of collaborative inquiry to study student responses to instructions in the class, observe the teacher's contribution to student learning, record the work, and analyze the evidence to determine what is making a difference. Digital reports on the research are available in the J.A. Turner Professional Library and can help inform practice and improve learning. Highlights of the research were provided, including: teachers review exemplars; timely feedback gives students time to improve; students also provide feedback; students are engaged in gallery works; consultation highlights strategies and thinking that went into the problem solving, students had a lot of procedural knowledge but needed more time to connect their thinking. Students were also involved in self assessment and were recorded explaining their thinking, which further provided opportunities for self reflection.

7. Supporting Student Achievement and Success: Student Work Study Teachers (SWST) (Continued)

It was noted that students were able to answer questions more effectively after they explained their thinking and had conversations with each other and the teacher.

IP-52, moved by Janet McDougald, that the oral report re Supporting Student Achievement and Success: Student Work Study Teachers (SWST), be received.

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8. Supporting 21st Century Teaching and Learning of Numeracy: Digital Bansho

Meghan Echlin, Principal of Dixie Public School, and Dale Trinder, Teacher, spoke about using digital bansho to support numeracy. Principal Echlin provided information regarding Dixie Public School, which has a high social risk index, and the approaches being used to support students to move forward. She indicated that the digital bansho project was one among 105 projects across school boards to be supported by the Ministry.

Dale Trinder reported that digital bansho is being used to support struggling students. It avoids a reliance on text books, and is more teacher-directed and student-focused. He explained that, in Japanese, bansho means a three part lesson. With the bansho project, the student first completes the work, and then the teacher explains the work. The project makes use of technology, with an interactive smart board, and lesson plans are carefully developed. Dale Trinder highlighted the success from the program, including: increased engagement; growth in problem solving skills, demonstrating strategies and connections; increased knowledge. He noted that the challenges included facilitating classroom discussion, understanding and efficiency, and getting students actively engaged in the dialogue. He indicated that this method is time-consuming and there is significant curriculum to cover. Dale Trinder advised that due to difference in cohorts, teaching mathematics exclusively with this approach may not cover all the gaps, and may be cognitively overwhelming for some students. With regard to next steps, he confirmed that a more balanced approach will be explored and the program needs to be customized to suit the cohort.

In response to a trustee's questions, Dale Trinder acknowledged time constraints in following this differentiated approach, and meeting with teachers to develop lessons. With regard to EQAO results, Superintendent Moynihan noted that this program is aligned with Ministry expectations, and with Levels 3 and 4 in the EQAO assessments.

IP-53, moved by Janet McDougald, that the oral report re Supporting 21st Century Teaching and Learning of Numeracy: Digital Bansho, be received.

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9. Supporting 21st Century Teaching and Learning of Numeracy: Use of Thinking Tools to Support Assessment and Instruction

Principal of Castlebrooke Secondary School, Cathy Semler, highlighted the focus on 21st Century Teaching and Learning at the school. She reported that the school is in its second year of operation, currently with Grades 9 and 10 students. Textbooks are not used in the classroom, but instruction and assessment is supported by a variety of resources and tools. She outlined three key components for success in mathematics teaching and learning: collaboration to support transition from Grades 7-9; working diligently on increasing dialogue regarding pathways; teaching mathematics across the curriculum.

Velisa Anusic, Teacher at Castlebrooke Secondary School, described the processes used at the school to teach mathematics. He indicated that the students' Grade 8 information is obtained to ensure a level of comfort with the use of resources. Grade 8 curriculum is reviewed in the first week of school and, at the end of the week, a recommendation is made based on diagnostic observations. Following this, students are taught Grade 9 curriculum with support from different tools, visual and other manipulatives, concrete materials, etc., as well as from technology.

IP-54, moved by Janet McDougald, that the oral report re Supporting 21st Century Teaching and Learning of Numeracy: Use of Thinking Tools to Support Assessment and Instruction, be received.

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10. Supporting a Comprehensive Numeracy Program: Prodigy

Highlighting the need to ensure that students know basic number facts, Mary Fiore introduced Rohan Mahimker, Co-CEO, Prodigy Game, reporting that he is a graduate of Turner Fenton Secondary School, and University of Waterloo's Mechatronics Engineering program, and the founder of the Prodigy game which supports a comprehensive numeracy program.

Rohan Mahimker provided brief background information on the creation of the Prodigy game. He drew attention to the PowerPoint slide indicating students' engagement with mathematics, which is 95% in Kindergarten, decreasing to 37% in Grade 9 before increasing to 45% in Grade 12. He noted that Prodigy is a self-paced mathematics game, designed on the Ontario curriculum, and includes specific EQAO content. The game incorporates virtual manipulatives, and questions are being added to the game which will allow children to demonstrate their thinking. Showing screenshots of the game, Rohan Mahimker confirmed that reports can be generated to allow teachers and parents to determine the level of skill and knowledge in mathematics, as well as areas of deficiencies. He stated that students' engagement with the game appears to be high, and he noted that, from experience, students are initiating a significant amount of practice with the game at home. Since the launch of the game in January 2013 with approximately 3,000 student users, the game is now being used by over 95,000 students. Rohan Mahimker listed the school boards using the game, and reported that the game is being used by 30 Peel schools. He advised that all the educational content of the game is free to users to enable equal access, and he described the premium items that can be purchased for a subscription fee. He noted that 95% of users access the game for free.

10. Supporting a Comprehensive Numeracy Program: Prodigy (Continued)

Superintendent Moynihan indicated that staff are working on integrating game theory into 21st Century Teaching and Learning. He advised, however, that many of the quasi-game mathematics programs are significantly expensive. Noting that the Prodigy game is based on the Ontario curriculum, he confirmed that the decision to introduce the game in classrooms would be a school-based decision.

Board Chair McDougald asked about teaching of algebra and trigonometry in schools, and whether success in mathematics can be achieved for all students. Mary Fiore remarked that the ways in which students learn mathematics is new, although the mathematics is the same. She stated that students need to be excited and engaged about mathematics in order to move forward in their learning, and improve achievement in EQAO. Mary Fiore added that students can be provided opportunities to succeed in mathematics through a variety of tools and resources, and it is important for all students to be mathematically proficient. She commented that these objectives require practice, passion, and enthusiasm and there will be some students who experience some level of failure.

IP-55, moved by Janet McDougald, that the oral report re Supporting a Comprehensive Numeracy Program: Prodigy, be received.

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11. Board Improvement Plan for Student Achievement

Superintendent Moynihan indicated that the report is a summary of the highlights of the Board Improvement Plan. He drew members attention to the key strategies of the numeracy focus at the Board.

IP-56, moved by Harinder Malhi, that the report re Board Improvement Plan for Student Achievement, be received.

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12. Question Period

There were no questions.

13. Public Question Period

There were no public questions.

14. Adjournment

IP-57, moved by Jeff White, that the meeting adjourn (20:15 hours).

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..... Chair Secretary