

**TCDSB Numeracy 7-12: Professional Development Plan 2016 -2017**

Initiative Goal BLIP Goal	Initiative/Subject	Details	G	S	T	D	Responsibility	Timeline
<p><b>Initiative:</b> Renewed Mathematics Strategy: A Targeted Approach to Supporting Mathematics Learning, Teaching and Leading.</p> <p><b>Goal:</b></p> <ul style="list-style-type: none"> <li>-Reducing the learning gaps in grade 9/10 applied mathematics and creating a culture of high expectations that supports the belief that all students can learn, progress and achieve excellence.</li> <li>-Develop, promote and implement engaging effective professional learning sessions to address needs of students with learning disabilities and students taking compulsory courses in grade nine and ten Applied Mathematics</li> <li><b>-transforming</b> culture; <b>optimizing</b> conditions for teaching, <b>leading and learning</b>; and <b>investing in and building upon</b> professional capital.</li> </ul> <p><b>BLIP Goals:</b></p> <ul style="list-style-type: none"> <li>-Curriculum Teaching and Learning</li> <li>-Student Engagement, Mental Health and Well-Being</li> <li>-School and Classroom Leadership</li> </ul>	<p><b>Initiative:</b> Renewed Mathematics Strategy</p> <p>1- Intensive support for FEW Schools (5)</p> <p>2- Increased Support for SOME Schools(21):</p> <p>3- Support for ALL Schools(33):</p> <p>Through the Use of differentiated Instruction and collaborative inquiry, <b>the math department will:</b> Provide meaningful, focused support and professional development for math lead teachers and Math Department Heads to build capacity with school teams by :</p> <ul style="list-style-type: none"> <li>-diagnostic and formative assessment practices that address the needs of grade 7-10 students, with particular emphasis on applied level courses</li> <li>- interventions to support the learning styles of applied level learners</li> <li>-implementation of precise, timely descriptive feedback that informs the learning goals aligned to curriculum expectations</li> <li>-varied and frequent opportunities to refine students learning skills while engaged in rich problem solving tasks</li> </ul>	<p>-The focus will be on the strengths and needs of students with learning disabilities and students taking compulsory courses in grade nine and ten Applied Mathematics.</p> <p>-Professional learning sessions will target teachers of grade 9/10 applied courses from schools receiving Intensive and Increased Support from Ministry of Education in 2016/2017</p> <p>-In these professional learning session, working collaboratively, teachers will focus on the effective assessment and analysis of student work, plan instruction in response to students' strengths and needs, and share evidence of informed instructional strategies</p> <p>-Topics will include: SSLN to promote collaboration between panels (grade 6-9 teachers), Assessment FOR/AS/OF learning, LG-SC-DF, learning skills in mathematics, learning and teaching through problem solving, integrating technology in mathematics classrooms, learning trajectories, inquiry based learning lessons/units design, spiraling through curriculum-unit design, etc.</p> <p>1- Intensive support for FEW Schools (5) 5 schools, 5 teachers/school = 596 days</p> <p>2- Increased Support for SOME Schools(21): 21 x 44=924days</p> <p>3- Support for ALL Schools (33 schools); 33x7(days)=231 days</p>	9/10	5	25	596	Mathematics Resource Team	Sept 2016 to June 2017
			9/10	21	70	924		
			9/10	33	97	231		

<p><b>Initiative:</b> EQAO Grade 9 applied Assessment Analysis and Planning &amp; Teaching Strategies</p> <p><b>Goal:</b> Develop understanding of mathematics program planning and instruction in relation to Ontario mathematics curriculum, EQAO Grade 9 applied assessment of mathematics, practices and board improvement goals, i.e., LG, SC, DF.</p> <p><b>BLIP Goals:</b></p> <p>1. Assessment For, As, and Of Learning. 2. Increasing Student Engagement: 3. Curriculum Teaching and Learning: 4. Staff Engagement and Well-Being:</p>	<p><b>Initiative:</b> EQAO Grade 9 applied</p> <p>-Provide support in collecting and analyzing data to improve student achievement i.e. DIP Data, EQAO applied and academic data, CAT 4 data, teacher observation notes, samples of student work, teacher and student surveys</p> <p>- Ensure the teaching and learning environment is inclusive and reflects individual student needs, strengths and learning styles.</p> <p>-support teachers in using a variety of diagnostic assessment tools to identify students at risk to perform below level 3.</p>	<p>-Two EQAO sessions in October with focus on organization, planning, teaching and assessment strategies in preparation for grade nine EQAO Assessment of Mathematics.</p> <p>In-depth analysis of EQAO school results takes place (e.g. EQAO Grade 9 Applied and Academic math results, Open Response and Multiple Choice questions, Item Information Reports, Tracking a Cohort's Achievement, etc.)</p> <p>Teachers examine how the results inform their instructional strategies and how they link with their School Improvement Learning Plan (SLIP) (Goal setting) and share their learning with peers</p> <p>20 to 25 teachers per session, who are currently teaching grade 9 math applied or academic.</p>	9	34	100	100	Mathematics Resource Team	Oct 2016, Feb 2017
<p><b>Initiative:</b> Collaborative Inquiry in Mathematics</p> <p><b>Goal:</b> Develop and implement productive classroom discourse using Professional Learning Processes</p> <p><b>BLIP Goal</b></p> <p>Staff Engagement and Well-Being School and Classroom Leadership Curriculum Teaching and Learning Nurturing our Catholic Community</p>	<p>-support teachers in designing their own local inquiry based learning with the use of "If.. Then" statement</p> <p>-support teachers in using problem solving as the central approach to teaching/learning mathematics</p> <p>-support teachers in developing growth mindset</p> <p>- encourage teachers to focus on creating a positive classroom environment for discussions that motivate students thinking, and clarify their reasoning</p>	<p>Collaborative inquiry/ study sessions involving groups of teachers teaching grade 7-12 mathematics in 2016-2017</p> <p>– sessions could be local (math teachers from the same school), group of schools math depts., or grade 7-10 math teachers</p> <p>-sessions will facilitated by numeracy resource team in collaboration with numeracy leads and/or math heads</p> <p>- Some topics will be inquiry based learning, co-teaching., etc. -3-5 days per group, 25 to 30 teachers x 4 groups = 100-120 teachers</p>	7-12	200	120	360-600	Mathematics Resource Team	Oct 2016 to May 2017
<p><b>Initiative:</b> SSI – Student Success Initiative</p>	<p><b>Initiative:</b> SSI – Student Success Initiative</p>	<p>-The professional learning is <b>focussed and precise in building capacity</b> as well as being <b>closely aligned with other Student Success and</b></p>	9-10 Applied	12	30	30x5=150	Mathematics Resource Team	Ongoing Sept 2016 to May

<p><b>Goal:</b> Support development of on-going assessment opportunities that are clearly aligned with curriculum expectations, and gap closing strategies that are identified and implemented in Applied level course</p> <p><b>BLIP Goals</b></p> <ol style="list-style-type: none"> <li>1. Assessment For, As, and Of Learning</li> <li>2. Increasing Student Engagement</li> <li>3. Staff Engagement and Well-Being</li> <li>4. Curriculum Teaching and Learning</li> <li>5. Nurturing our Catholic Community</li> </ol>	<p>-support building a common understanding and implementing balanced mathematics instruction by focusing on mathematics concepts to narrow the gap in student achievement in mathematics</p> <p>-support connecting Big Ideas, Curriculum Expectations, Success Criteria and Descriptive Feedback in mathematics classes</p> <p>- focus on co-teaching strategies to support school improvement efforts to build capacity and reduce achievement gaps</p>	<p><b>Ministry initiatives:</b> (The School Effectiveness Framework, Growing Success, Differentiated Instruction (DI), The Professional Learning Cycle for Collaborative Inquiry, The Leadership Framework – Core Leadership Capacities, LSA, SIM)</p> <p>Ongoing local and schools group sessions to enhance instructional practices in the classroom, raise the level of student achievement</p> <p>Sessions focus on addressing the needs of students in applied math program (e.g., planning Grade 9 and 10 lessons, in-depth analysis of student achievement data and pass rates, etc.).</p> <p>Teachers make use of resources to create the pre/post – assessment [e.g., resources from Ontario Numeracy Assessment Package (ONAP 9), Gap Closing].</p>	math emat ics					2017
<p><b>Initiative: Cultivate and Develop Math Leadership</b></p> <p><b>Goal:</b> cultivate and continuously develop a high-quality teaching profession and strong leadership at all secondary math departments</p> <p><b>BLIP Goals</b></p> <ol style="list-style-type: none"> <li>1. School and Classroom Leadership</li> <li>2. Increasing Student Engagement</li> <li>3. Staff Engagement and Well-Being</li> <li>4. Curriculum Teaching and Learning</li> </ol>	<p><b>Initiative: Cultivate and Develop Math Leadership</b></p> <p>-Through differentiated instruction, develop math content and pedagogical knowledge within the context of school and regional leadership.</p>	<p>-Learning session with focus on math leadership strategies (e.g., math department heads sessions, numeracy leads, math reps, and coaches).</p> <p>-Support differentiated professional learning with math heads and numeracy leads that includes co-planning, co-learning co-teaching and the collaborative analysis of student work to inform next steps and improve student engagement and achievement</p>	9-12	34	68	68x 3=2 04	Mathematics Resource Team	Sept 2016 Feb 2017 May 2017
<p><b>Initiative: Focused Learning Sessions</b></p> <p><b>Goal:</b> Develop math content and pedagogical knowledge in relation to analysis and monitoring of student learning and achievement using focused learning sessions.</p> <p><b>BLIP Goals</b></p> <ol style="list-style-type: none"> <li>1. Assessment For, As, and Of Learning.</li> <li>2. Staff Engagement and Well-Being</li> <li>3. Curriculum Teaching and Learning</li> <li>4. Nurturing our Catholic Community</li> </ol>	<p><b>Initiative: Focused Learning Sessions</b></p>	<p>-Teachers will have to sign-up on PAL in order to attend these learning sessions.</p> <p>-Sessions are focused on hot topics; e.g., Assessment FOR/AS/OF learning, LG-SC-DF, learning skills in mathematics, learning and teaching through problem solving, enrichment in mathematics, implementing technology in mathematics classrooms, learning trajectories, inquiry based learning lessons/units design, spiraling through curriculum-unit design)</p> <p>-9 topics, 2 sessions for each topic, and 20 teachers per session= 9x 2x20=360 teachers</p>	7-12	200	360	360	Mathematics Resource Team	Oct 2016 to May 2017
<p><b>Initiative: SSLN -Student Success</b></p>	<p>Developing a Growth</p>	<p>SSLN sessions promote collaboration between</p>	Scho	200	1020	204	-Secondary and	Oct 2016-

<p>Learning Network</p> <p><b>Goal:</b> promote collaboration between panels, teachers, and parents, professional development pertaining to Numeracy and 21<sup>st</sup> Century Learning, as well as student engagement and achievement.</p> <p><b>BLIP Goals</b></p> <ol style="list-style-type: none"> <li>1. Staff Engagement and Well-Being</li> <li>2. School and Classroom Leadership</li> <li>3. Curriculum Teaching and Learning</li> <li>4. Nurturing our Catholic Community</li> </ol>	<p>Mindset in Mathematics classes, analyzing data (EQAO, CAT scores), Implementing High Quality Math Instruction, Assessment and Evaluation, Trajectory of Math Content (co-planning a math lesson -cross-panel)</p>	<p>panels, teachers, and parents, professional development pertaining to Numeracy and 21<sup>st</sup> Century Learning, as well as student engagement and achievement.</p> <p>If students, teachers, principals and parents understand and explicitly teach the role of mindset in mathematics, then improvement in student achievement in math will be on-going and lasting through high school.</p> <p>-34 SSLN teams (34 high schools , 2 sessions for each team, and 30 teachers per session in average= 34x 2x30=2040 days and 1020 teachers</p>	<p>ol Principals , Grade 7,8 and 9,10 teachers</p>			0	<p>Elementary School principals</p> <p>-Mathematics Resource Team</p>	<p>May 2017</p>
<p><b>Initiative:</b> Grade 9 Applied Math iPad Learning Sessions.</p> <p><b>Goal:</b></p> <p>Develop strategies for using iPad apps to understand, implement, monitor and articulate effective mathematics teaching and learning practices in relation to student learning, engagement and achievement</p> <p><b>BLIP Goals</b></p> <ol style="list-style-type: none"> <li>1. Increasing Student Engagement:</li> <li>2. Curriculum Teaching and Learning:</li> <li>3. Staff Engagement and Well-Being:</li> <li>4. School and Classroom Leadership:</li> </ol>	<p><b>Initiative:</b> Grade 9 Applied Math iPad Learning Sessions.</p> <p>-iPad integration with pedagogy</p> <p>-alignment of iPad use with specific school goals established by EQAO IIR data</p> <p>-establishing/sharing promising practices collaboration between teachers.</p>	<p>The focus is:</p> <p>Through a culture of learning, teachers will:</p> <ul style="list-style-type: none"> <li>-Use iPad apps to understand, implement, monitor and articulate effective mathematics teaching and learning practices in relation to student learning, engagement and achievement.</li> <li>-Develop precision in using instructional strategies (e.g., three part lesson, questioning, exit survey, etc) and mathematics resource materials (i.e, lesson plans, activities, assessments....) to improve students' conceptual understanding and strategic competence in - mathematics.</li> <li>-Develop a better understanding of assessment (for/as/of learning) and the role it plays in increasing student learning, engagement and achievement</li> <li>-Develop strategies for using iPad apps, in terms of math content, math communication, and/or monitoring/recording details of student mathematics learning, engagement and achievement</li> </ul> <p>-30 teachers per session, who are teaching grade 9 -10 math applied, 2 sessions per group, 4 groups (2 East &amp; 2 West), 30x2x4=240 days and 120 teachers</p>	<p>9-10</p>	<p>34</p>	<p>120</p>	<p>240</p>	<p>TCDSB Mathematics resource team in collaboration with 21<sup>st</sup> Century learning team</p>	<p>Oct 2016-May 2017</p>