

The Imperative of Integrated Learning

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It's About Learning

As a part of seeking to engage students more deeply, York Region District School Board's (Y.R.D.S.B.) refreshed Literacy Frame (Appendix A) suggests that today's students must become partners in learning, be actively engaged in the development of digital knowledge, skills and attitudes, and be immersed in a connected curriculum using real world content and processes. Our system equity goals include students being able to see themselves in the curricula – enhancing relevance and learning as well as having curricular delivery differentiated and personalized to meet specific student strengths and needs. As well, students need to be involved in co-constructing the criteria of success and in the assessment of their progress towards specific learning goals. Higher - order questions and intentional thinking challenges need to be strategically woven into this generation's programming to provide opportunity and practice in the development of multiple and critical literacy skills. All of these system goals support the development of creative and critical thinking skills as well as skills of collaboration and strong communication. Our Literacy Frame also incorporates many of the tenets of the Ontario Ministry of Education - Secretariat's Capacity Building Series in regard to building integration and inquiry into planning and instruction (Sept, 2010, Sept. 2011).

No matter what systemic enhancements are made to improve planning, implementation and assessment processes as a part of striving for more precision, we must remind ourselves that it is the individual learner who learns. Integrating learning requires educators to consider both content and learning processes for individual learners. Contextualized and connected learning includes capitalizing on real world contexts for learning and integrating emerging technologies as appropriate. Our Specialist High Schools Major programs, Ontario's Apprenticeship Programming, Secondary Co-op programs are good examples on how real world learning sets the stage for greater relevance for students. It is also helpful to reflect on what has been learned from a considerable body of work regarding brain compatible learning, as increasingly, *integrated learning and brain compatible learning* appear to be one and the same.

Core Concepts of Brain Compatible Instruction and Learning to Consider

David Sousa's (2011) very readable resource, "How the Brain Learns – 4th Edition", reinforces that learning engages the whole person (cognitive, affective and psychomotor domains) (p. 280). It appears that the brain is constantly seeking patterns and connections in its search for meaning. Our emotions are always at play as well and affect all aspects of our learning (Sousa, 2011; Fogarty, 2002; Fogarty, 2009; Lyons 2003; Tileston, 2011). A learner seeks sense and meaning in what he or she is learning. What we feel about our learning affects our ability to learn. It matters that students have opportunities to move, experience humor, music and games as they learn. Multi-sensory activities help retention, recall and understanding (Sousa, 2011, p. 59). Exercise increases blood flow to the brain as well as the body and increased physical activity has been shown to improve student achievement. As well, novelty in lessons increases engagement and cognition (p. 38). There is little doubt integrated arts programming is important

for all students as a vehicle for creative and cognitive growth. Our focus on positive climates for learning has a basis in substantial brain research. As Sousa outlines, emotions win over curriculum concepts as it takes time for our rational system to override our emotions (2011, p. 57). Those of us who have struggled with 'math anxiety' over the years would be able to identify with this understanding. Feeling frozen while looking over complex algebraic formulas comes to my mind!

Long term and working memory are impacted by sense and meaning. Two questions we need to ask frequently as educators: (1) Does this make sense? Can our learners understand something on the basis of past experience or what the learner knows about how our world works? When a student shares, "I don't understand", he or she is having trouble making sense of the learning. (2) Does this have meaning? Is the item or concept relevant to the learner? Students lamenting "when will I ever use this?" speak to the relevance issue. Meaning is personal and influenced by past experience. If sense and meaning are present, the probability of retention (or storage) increases significantly (Sousa, 2011 p. 53). While sense and meaning are independent of each other, meaning is more important in terms of imprinting our memories (p. 54).

The implications for classroom practice are numerous. Students listen to a lot that makes sense to them but how much has meaning for them? If we want to increase meaning for students, we must look to connections to students' lived experiences, to connections they can make to real world issues and circumstances, to how culture and diversity play a part of self-concept and to how we can reinforce that life itself is an integrated social process. How might what students learn today better connect to what was learned last week and what will be learned tomorrow? Caine and co-authors contend that helping students to deeply process their learning is probably the most overlooked and unappreciated aspect of powerful teaching (2005, p. 180). Active processing involves helping students make connections to prior knowledge, providing time for practice and rehearsal, assisting students to develop the skills of keen observation and asking probing questions. As well, instructors providing time for active reflection and review is essential to processing experience and new learning. Active processing supports the development of strong skills of metacognition and self-regulation (p. 182).

Student interests also make a difference to learning and processing time. Teachers assist active learning when they generate interest, establish clear accountability, continually assess student progress and provide formative feedback which is prompt, specific and which directs next steps. Teachers strive to engage students as class work begins, however, when teachers add exercises that provide closure at the end of a class, sense and meaning are enhanced for learners (Sousa 2011, p. 75).

As well, while our cognitive belief systems influence the way we see the world, it is our self-concept that shapes the way we see ourselves. Self-concept controls our feedback loop to ourselves which determines how we will respond to any new learning situation. When 'students shut down', self-concept feedback is often at play. Self-concept determines motivation to learn (Lyons, 2003, p. 182). Not surprisingly, learning occurs more easily in environments that are free from threats and intimidation.

Students face many challenges in their lives. For example, we know that there is a greater incidence of health and learning issues among students from lower income backgrounds. The good news is as Jensen (2009) outlines is that brains are designed to change and that research has affirmed that we can intentionally change the brain's structure and organization (p. 47). This is particularly good news when working with students who are experiencing social, emotional and academic issues. With proactive steps, such as recognizing signs of difficulty, altering learning environments, empowering students to set goals and explicitly teaching social skills and problem solving, we can make a significant difference as educators. As Jensen suggests, intentionality can create brain compatible learning - particularly important when working with students who have challenges. Indeed, he suggests a CHAMPS* approach is a most appropriate focus (2009, p. 129). (* Focus on developing a champion's mindset; foster hopeful effort; project based learning and inquiry develop attentional skills; in depth projects, music and drama improve memory; visual arts, critical thinking and sports develop processing skills and music, math, cooking and projects improve sequencing skills). In summary, what has been learned from brain research has direct implications for building effective classroom cultures for integrated learning.

Shaping Integrated Classroom Instruction

A teacher's work is never done! In considering his or her planning, a teacher must consider the strengths, needs and interests of students, specific learning goals in the unit or lesson being organized, what an assessment plan will include and design decisions for instructional delivery. Will he or she use direct teaching, demonstration, concept attainment, Socratic methodology, co-operative learning, simulation or games, individualized assistance and/or drill and practice? What technological tools will be used to support student learning? There is no one perfect teaching method but pros and cons to all methods. For example, research has shown that the lecture method usually results in the lowest degree of retention but an interactive lecture holds more promise (Sousa, 2011, p. 100). Using simple terms, talking at students is rather ineffective but talking with students impacts learning positively. Using an interactive lecture format, the teacher may do some direct instruction in terms of information and direction but students are actively involved in giving feedback on what they have heard, considered and learned. The addition of visual material increases retention over simply using auditory material. Add a verbal component to both auditory and visual inputs and a sensory rich learning environment is created. Using a phrase many are familiar with – learning by doing – students involved in problem-based learning using real world problems to which they can apply new information and skills creates the fuel for strong motivation and meaningful work. Our students involved in Eco-school project work can articulate clearly the real-world issues about which they are very passionate.

Watkins (2010) defines effective learning today as “a change of knowledge occurring through a process of knowledge construction in which the social context of learning is important” (p. 1). Synergy is described as the joint actions of people working together increasing each other's effectiveness (Sousa, 2011, p. 78). In a synergistic learning environment, learning is usually an active, multi-sensory process. We can extend this to professional learning as well as student learning. Certainly, our board's present experiences in learning networks and '4C's work (co-planning, co-teaching, co-debriefing and co-reflection) would support the notion of synergistic learning as being highly desirable (Planche, 2012).

Effective learners have a rich conception of learning along with strengths in metacognition, self-monitoring and self-regulation (Watkins, 2010). Watkins speaks to studies that have shown that those with a learning orientation obtain higher achievement scores than those who have more of a performance orientation. Our goal must be to develop learning oriented classrooms where participation by all is encouraged in multiple forms. In these classrooms, a collaborative culture is encouraged, inclusivity is the norm, mistakes are viewed as part of learning and asking questions is a natural part of the learning process. Learning about learning is encouraged and an object of attention by all participants. Providing time for learning about learning helps to develop self-regulation – which is key to optimizing the use of the brain and the development of its executive functions (Caine et al, 2005, p. 182). In ideal terms, teachers and students are partners in an integrated learning culture as each comes to the table with a co-learning stance.

Models of Integration to Consider

What do our students experience today in our schools? What could we consider in our planning? Fogarty (2002, 2009) offered several different configurations to consider which range from a traditional ‘cellular view’ which involves a single subject or discipline to her notions of an “integrated view” and a cross disciplinary approach with teachers involved considering what patterns of learning are to be reinforced across subject areas.

Fogarty’s ‘networked view’ of learning offered the potential of learning across classrooms and schools – creating multiple lenses and points of view to consider. Networking might involve non-traditional participation such as working with industry and community partners as well as participation with school and board colleagues. Learning networks for adults are embedded in our system’s culture. What might learning networks for students look like?

Every model of curriculum delivery has its strengths and disadvantages. Fogarty suggests that any model can be strengthened by planning for robust integration and brain compatible learning. To do so one must consider both the breadth and depth of connection as in the following:

1. Relevance – How is this element of curricula informed by real-world application?
2. Richness - How are the concepts involved multi-layered and are there implications for breadth and depth across intelligences for students?
3. Relatedness – What are the genuine and natural overlaps and connections across disciplines?
4. Rigor – Are there opportunities for problem-solving, decision-making, higher – order thinking?
5. Recursiveness – How can we allow for a transfer for skills or multiple opportunities to develop concepts and skills? (adapted Fogarty, 2002, P. 101).

My own experience has affirmed that many different models of curriculum design have their place. The issue would be the limitation of only offering one model in today's schools. My own view of integration is that its impact in positive terms has to do with the ability to explicitly connect learning within and across subjects or disciplines. Through intentional and collaborative backward-design planning across subjects and disciplines, the assessment and implementation of social, emotional and academic goals can be facilitated and authentically embedded. Planning for integration also provides the opportunity to combine big ideas and constructs across curricula, to embed the instruction of learning and social skills and to reinforce the behaviours and attitudes that underpin student achievement (What Works? Research into Practice, Sept. 2010).

Inquiry - Based Learning – a Timely Approach

One might be asking at this point, is there a way to make integration more seamless and organic? The good news is that inquiry - based learning offers much potential for brain compatible learning and for natural connections to be made. As well, in an inquiry design, curricular objectives may be “uncovered” in authentic ways to enhance interest and learning. Rather than curriculum being delivered through teacher transmission, curriculum content can be integrated and explored in the work that is a part of the inquiry. Inquiry based learning is not new but has come to centre stage as an approach to increase student engagement through relevant work and learning experiences (Capacity Building Series, Sept. 2010). Certainly a close examination of our new Kindergarten Curriculum in Ontario has within it elements of inquiry which are highly applicable and relevant to all grades.

Y.R.D.S.B.'s Literacy Frame reinforces that effective questions and inquiry are at the heart of higher-order learning opportunities. I would also suggest that inquiry offers great opportunity for integrated, brain-compatible learning and productive student collaboration. There are many frames for inquiry emerging or surfacing right now. Y.R.D.S.B.'s Inquiry-Based Learning Framework is drafted to be applicable within a discipline or subject or across disciplines. The process of inquiry itself is flexible in terms of time, teacher direction or student led activity and can be applied within a lesson, or unit or a course. Assessment for, of and as learning can be infused into the planning of inquiry as well as a gradual release of responsibility to students. Research has substantiated that inquiry deeply engages students (Barron & Darling Hammond, 2008). It allows for personalization in its design and for the integration of real-world application as students explore an inquiry's potential. Inquiries may be project/subject based, problem-based and/or design-based. To develop an inquiry mindset towards curriculum delivery, an effective starting point is simply to look for ways to “problematize” one's curriculum. How might a major theme or specific concepts of learning be expressed as a problem? When one is more experienced with the concept of inquiry, one can consider how objectives across curricula might be combined to create a dynamic learning experience with real-world application. The teacher's role is multiple – as director, designer, coach, consultant, knowledgeable other, facilitator, guide, supporter and instructor as the inquiry unfolds. As suggested:

The design of most inquiry-based approaches is based on insights from cognitive theories about how people learn and the importance of students making sense of what they are learning and processing content deeply so that they truly understand it (Bransford, Brown, & Cocking, 1999 in Barron & Darling Hammond, 2008).

York Region District School Board - (K-12) Inquiry Model (Appendix B) has three main phases to consider:

1. Engage and Explore

An inquiry may be initiated by a teacher or a student. The 'spark' might be a photograph, a video, a podcast, a picture, a quotation, a poem, or an artifact to begin a discussion and exploration. Information gathering, observations, conversations at this stage of the inquiry set the stage for a question and a specific focus to move from one stage to another. More structured disciplines like Science may use an adaptable frame for inquiry which includes initiating and developing a testable question while subjects like Language, Social Studies and History, for example, might include learning expectations that can be woven together to include big ideas or fundamental concepts such as conflict, change and responsibility. During the exploration phase, while beginning to gather data and consider credible sources, students uncover the need for researching skills. Present technologies offer many ways to gather information, however, the teacher's role as a knowledgeable other and as a facilitator are crucial in all phases of the inquiry process.

2. Taking Action and Making Sense

The teacher takes a more or less directive role in helping students to articulate the question or clear focus at the heart of the inquiry. The work of investigating often includes a plan of action. Data gathered needs to be interpreted by the individual, a peer group or the class. Artifacts and chosen pieces of evidence are organized and connections made explicitly to previous pieces of learning. The time frame for this phase may be time restricted or quite expansive depending upon the age of the students and the complexity of the content being studied. An inquiry might be inherent in a three-part math lesson or over the course of several projects in a secondary classroom. Collaborative learning groups may be set up to work together with accountability expressed part of the 'contract' or work plan which sees students taking action and making sense of the work involved. This phase of the inquiry allows the teacher to interject small group, individual and whole class mini-lessons as needed. The focus during the taking action and making sense phase for the teacher is instruction, guidance and checking for understanding through formative feedback and observations. Students come to the inquiry process with different strengths, interests and needs and strategic differentiation is needed. As students interpret and summarize their learning, they do so with the knowledge that their work has an important purpose: Their work will be shared.

3. Learning With and From Each Other

Students going 'public' with artifacts of learning increases retention, comprehension and engagement. As Sousa pointed out, "Whoever explains learns!" (2011, p. 101). Having an audience increases accountability, offers practice in communication as well as content understanding and makes 'school work' more relevant. An audience might be parents, members of the community, another class, peers and school colleagues. Students can co-construct the criteria of how work can be shared most effectively as well as what standard of work indicates readiness to share. Sharing increases emotional investment as well as offering opportunities for practice in giving and receiving feedback. The teacher is the steward in terms of helping to negotiate 'audience participation' in a way that student self-concept and self-esteem is enhanced. The more students are supported as autonomous learners, the higher the school performance overall (Watkins, 2010). Student generated questions, self-generated questions and peer talk – asking and explaining are all part of an effective learning with and from each other process. Again, technology is a tool which can enhance an inquiry process at every stage including 'going public'. Performance-based assessment, student portfolios, student demonstrations and expository reflections represent different forms of assessment of learning opportunities as a part of an inquiry process. As Barron and Darling Hammond (2008, p. 64) report, research findings indicate higher achievement on complex performance tasks for students who experienced what the researchers termed "authentic pedagogy – instruction focused on active learning in real-world contexts calling for higher-order thinking, consideration of alternatives, extended writing and an audience for student work" (Newman, Marks & Garmoran, 1995).

An inquiry frame allows for the integration of these robust learning opportunities as well as provides the groundwork to make student thinking more visible. Students taking ownership for their learning is the most exciting outcome to successful inquiries as often one inquiry question leads students to ask other questions and make important connections to previous learning. An example of an inquiry scenario is attached. (Appendix C).

A culture of trust and strong relationships underpin an effective inquiry- based classroom. Learning is as much about feeling and reflecting as it is about listening, seeing, and doing. Learning is certainly an outcome of experience and it is humbling to remind ourselves that as educators we create the learning experiences in our classrooms every day. It is our decisions and actions as educators, which may assist or hinder integrated or brain compatible learning for students. The imperative of being highly skilled as educators in developing authentic and connected learning experiences is now very clear. Inquiry based approaches develop strong connections and the classroom becomes a community of co-learners. If we support today's essential outcomes of strong skills of communication, creativity, critical thinking and collaboration, facilitating the integration of learning must become a guiding frame in public education.

REFERENCES

- Barron, B. & Darling-Hammond, L. (2008). How can we teach for meaningful learning? in *Powerful Learning*, Darling-Hammond, L. et al., John Wiley & Sons, San Francisco, Cal. (pp. 11-70).
- Bransford, J.D., Brown, A.L. & Cocking, R.R. (1999). In Barron, B. & Darling-Hammond, L. (2008). (p. 35).
- Caine, R. N., Caine, G., McClintic, C., & Klimek K. (2005). *Twelve Brain/Mind Learning Principles in Action*. Corwin, Thousand Oaks, Cal.
- Erlauer, L. (2003). *The Brain-Compatible Classroom*. ASCD., Alexandria, Virginia.
- Fogarty R. (2002). *How to Integrate the Curricula*. 2nd Edition. Corwin, Thousand Oaks, Cal.
- Fogarty R. (2009). *How to Integrate the Curricula*. 3rd Edition. Corwin, Thousand Oaks, Cal.
- Jensen, E. (2009). *Teaching with poverty in mind*. ASCD., Alexandria, Virginia.
- Lyons, C. (2003). *Teaching Struggling Readers: How to use Brain-based Research to Maximize Learning*. Heinemann, Portsmouth, N.H.
- Newman, F. M., Marks, H.M., & Gamoran, A. (1995) In Barron, B. & Darling -Hammond, L. (2008). (p. 64).
- Planche, B. (2012). The transformative power of co-learning. *Leadership in Focus*. (Winter, No. 26). (pp.2-7).
- Ontario Ministry of Education, September, 2010. *Capacity Building Series: Integrated learning In the Classroom*. ISSN: 1913 8490 (Online).
- Ontario Ministry of Education, September, 2010. *What works? Research into Practice: Integrated Curriculum*. ISSN: 1913-1100 (Online).
- Ontario Ministry of Education, October, 2011. *Capacity Building Series: Getting Started with Student Inquiry*. ISSN: 1913 8490 (Online).
- Sousa, D. (2011). *How the Brain Learns*. 4th Edition. Corwin, Thousand Oaks, Cal.
- Tileston, D. (2011) *10 Best Teaching Practice – How Brain Research and Learning Styles Define Teaching Competencies* 3rd Edition. Corwin, Thousand Oaks, Cal.
- Watkins, C. (2010). *Learning about Learning*. School Leadership today. www.teaching.times.com

APPENDIX

- Appendix A - York Region District School Board 2011 – Refreshed Literacy Frame
- Appendix B - York Region District School Board- Inquiry Based Learning Frame
- Appendix C - An Inquiry Scenario

Leadership for 21st century literacy learning

Leaders build trust and accountability in a collaborative learning culture

- School leaders ensure that literacy instruction is embedded into all subject areas and monitor effective assessment and instructional practice.
- School leadership teams engage in cyclical monitoring to ensure that literacy targets are met.
- School leaders engage staff and community in decisions related to literacy resource allocation that address student and staff learning needs.
- School leadership teams collaborate with other schools to learn about effective practices and to share resources wherever possible.
- Principals and vice-principals create and participate in a collaborative learning culture in their schools and within a network of schools.
- School leaders build a culture of trust through learning conversations that lead to the improvement of literacy practice.
- School leaders and leadership teams foster a culture of equity and inclusion that ensures a differentiated focus to address the learning needs of each student.



Literacy in the 21st Century is the acquisition of knowledge, skills and attitudes that enable achievement, personal well-being and full participation in an interconnected and changing world community.

Resources to support this frame are available at this website:
<https://bww.yrdsb.ca/services/cis/literacyframe/Pages/default.aspx>



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Refreshing Our Literacy Frame:

Promoting Student Achievement and Well-being

Key Components of the K-12 Frame for Literacy:

Based on research and our own evidence of what makes literacy practices effective, and in direct alignment with the goals of our Board Improvement Work Plan, the elements of the framework are organized under the following components:

- Commitment
- Planning
- Assessment
- Engagement
- Instruction
- Relationships



Refreshing Our Literacy Frame: Promoting Student Achievement and Well-being in the York Region District School Board

COMMITMENT

Commitment is made to being part of a collaborative that learns together.

- **Shared beliefs and understandings:**
 - Each student and each teacher can be successful given appropriate time and support
 - High expectations are held for all
 - Teachers understand, and can articulate, what they do and why they teach and assess the way they do
- **Continuous learning:**
 - Teachers, administrators and superintendents build their capacity through learning networks and system and school supports for effective planning, assessment processes, instruction and student engagement
- **Inclusive and equitable school cultures:**
 - Principals, vice-principals and school staffs create and communicate a shared vision for their school
 - Work together to build equitable and inclusive, positive climates for learning

PLANNING

Planning is purposeful.

- **Focused and comprehensive programming:**
 - Including the elements of a balanced/comprehensive literacy program: modelled, shared, guided and independent reading and writing as well as phonological awareness as a building block for early literacy development
 - Oral language development is foundational throughout the K-12 curriculum
 - Planning for Literacy programming in all schools includes strategic development of schedules and timetables
 - Elementary programming involves a daily, sustained and focused block of literacy and numeracy instruction
 - Secondary programming integrates Literacy development specific to subjects/courses
- **Resources that support Literacy programming:**
 - Designated Literacy Teachers are a key resource in the support of their colleagues' professional development; and
 - Literacy resources are shared materials and are located in a designated, accessible area
- **A teaching/learning cycle that is responsive to the strengths, needs and interests of students and is monitored for continuous improvement:**
 - The cycle is used to frame planning, assessment and instruction of:
 - Ontario curriculum expectations;
 - a range of multi-literacies which ensure the outcomes in the "Literate Graduate" framework; (YRDSB, 2009.)
 - learning skills which are integrated throughout the planning process so the skills are learned in context and practised in frequent applications; and
 - both content and processes that support higher-order thinking.
 - Planned instruction is scaffolded and sequential throughout grades K-12

ASSESSMENT

Effective assessment practice informs instruction for learning.

- **Assessment-based instruction:**
 - Across disciplines, planning, assessment and instruction begins with knowing the strengths, needs and interests of individual learners and curriculum expectations
 - Assessment of literacy skills begins with finding instructional starting points and becomes on-going monitoring of student learning
 - Assessment "for", "as" and "of" learning data is gathered over time and in a variety of ways, through observation, conversation, products and learning processes in which students participate
 - Instruction is differentiated in response to student assessment data
- **Informed school decision-making:**
 - School teams use assessment information to create S.M.A.R.T.* goals that lead to improved teaching and learning
- **Social Emotional and Academic Learning (S.E.A.L.) goals:**
 - S.E.A.L. development goals are an integral part of gathering relevant assessment data and planning for student success
- **Descriptive, useful and timely feedback:**
 - Students receive meaningful, timely and descriptive feedback on their learning through teacher, self- and peer-assessment processes which highlight next steps for their learning

*Specific, Measureable, Attainable, Relevant and Time Bound

ENGAGEMENT

Students are partners in learning.

- **Digital knowledge, skills and attitudes:**
 - Strategies to develop the knowledge, skills and attitudes for the appropriate use of digital literacies are woven into instructional practice to deepen student engagement and understanding
- **Authentic learning:**
 - Learning using real world content and processes deepen student participation and increase understanding
 - Sharing learning with an appropriate audience increases motivation and engagement
- **Co-constructed success criteria:**
 - Students are engaged as partners in their learning
 - Teachers establish clear learning goals and construct success criteria with students
 - Whenever possible, students are given a variety of ways to demonstrate their understanding and learning
- **Higher-order learning:**
 - High-yield approaches and teaching strategies are integrated into teachers' planning processes, e.g., instructional intelligence; co-operative, experiential and collaborative learning
 - Opportunities for students to learn from and with each other are integrated throughout the day through the practice of accountable talk
- **Critical inquiry:**
 - Effective questions and inquiry are at the heart of higher-order learning
 - School leadership teams facilitate cross-curricular approaches to inquiry-based learning
 - Students make meaningful connections across the curriculum and to their world by developing the skills of questioning, problem-solving and critical and creative thinking

INSTRUCTION

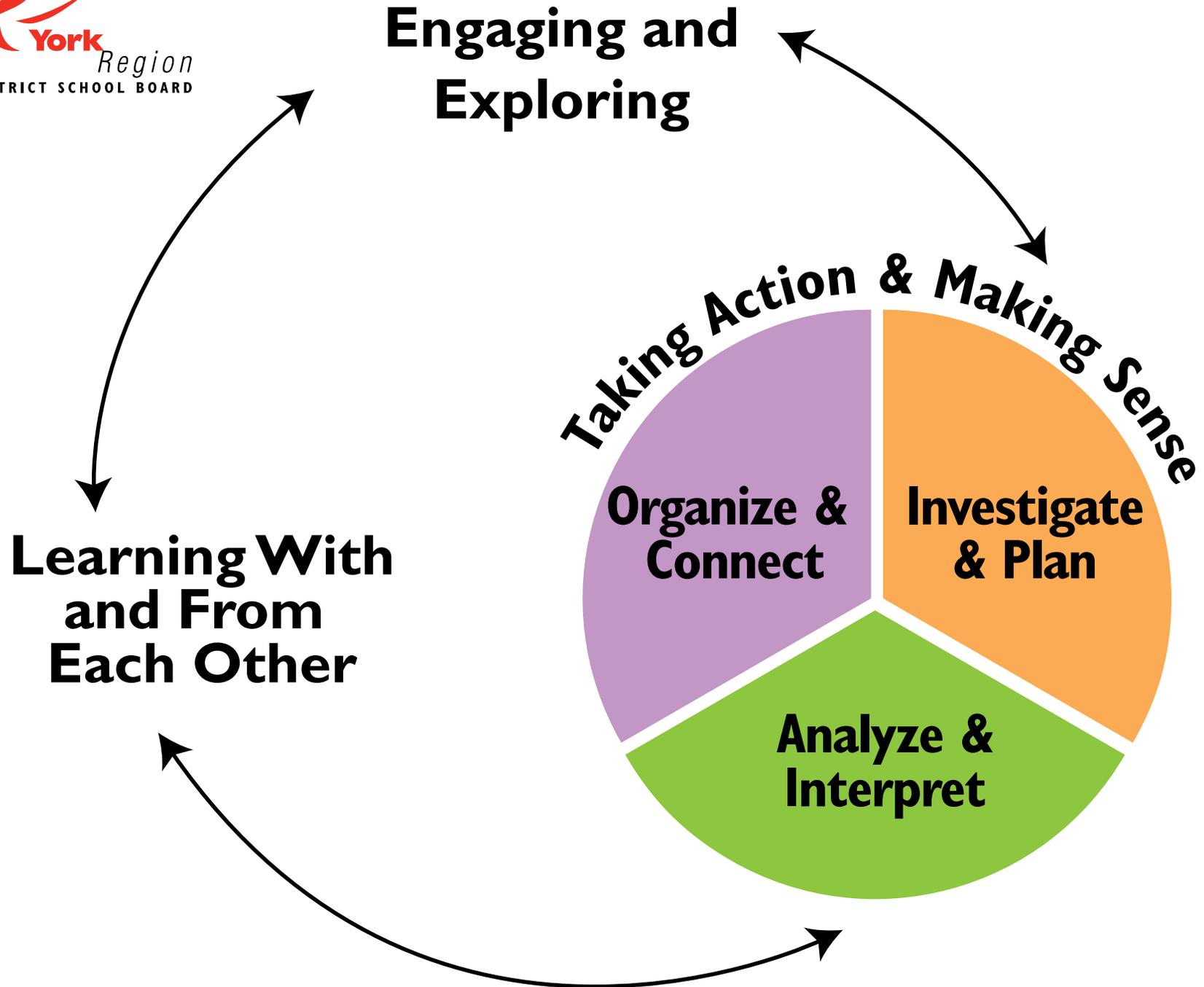
Instruction is precise and personalized.

- **Building strong foundations for learning:**
 - Early and on-going interventions are matched to student needs
 - Strong literacy foundations are built in Early Years programming
 - Reading Recovery© is offered as an intervention to struggling Early Years students
 - Students with special needs are supported through the use of assistive technologies and learning strategies
 - In secondary schools, monitoring and intervention supports are part of Student Success planning
- **Differentiation and case management for success:**
 - Monitoring of student achievement is an on-going process
 - The needs of students who are struggling are managed case-by-case
 - As appropriate, student profiles are developed and monitored for effectiveness
 - Needs of individual students are highlighted in school improvement planning decisions
 - Assessment-based instruction is differentiated as per the strengths, needs and interests of students
- **Informed Pathways planning:**
 - School staff plan for appropriate programming and pathways to meet the learning needs of each student
 - Transitions are considered throughout a student's career in preparation for appropriate programming and pathway decisions

RELATIONSHIPS

Positive relationships and partnering helps to prepare students for the future.

- **Shared purpose:**
 - School staff work with families and their communities to establish positive relationships
 - The community, parents and guardians, along with students are our essential partners
 - Strong relationships lay the groundwork for:
 - a mutual understanding of the strengths, needs and interests of our students;
 - a greater understanding of program delivery; and
 - increasing the effectiveness of the school improvement planning process.



Appendix C

An Intermediate Inquiry Scenario to Consider

Peter, a grade 8 Geography teacher collaborated with his colleague Marie, to design a unit on different types of economic systems and to infuse specific language expectations into the design. Their unit involved both grade 8 classes in their school. As planning for inquiry was new to them, they decided to give the students the first question of inquiry: How have a variety of economic resources influenced the growth of Southern Ontario? This question aligned with the overall expectations for economic systems in the Grade 8 Geography unit. As a “spark” to the unit, a community planner from the Town of Markham was invited in to talk about what considerations a municipality must include in planning and developing new parts of the region. He brought a video, which highlighted the growth of the region over the past twenty years. Students also explored the concept of economic systems through internet searches as well as text and library resources. The estimated time needed for this inquiry process was four or five weeks and they allowed the flexibility of two more weeks if needed.

Prior to having students take action and make sense of their studies, time was spent reviewing the norms of co-operative and collaborative work and teachers reviewed the learning skills that would be tracked as a part of the inquiry process. Peter and Marie decided which learning skills would be explicitly taught or retaught to assist students. Students created charts to track their own progress in anticipation of the work ahead of them as well. Work plans for collaborative groups would be developed and shared with parents as a part of educating them about the inquiry process itself.

In collaborative work teams of four, students chose to highlight the impact of land, labour, capital, or entrepreneurship as resources to a developing community in Southern Ontario. They were given a choice of communities. All groups were asked to research the kind of technology that was now a mainstay of the economic system they were studying. Students were asked to complete a planning map indicating which resources they would use, how they would be documenting their findings, in what format they would be sharing their findings and what group and individual products would entail. The taking action and making sense phase of their inquiry would involve a case study of the development of a new community – investigating needed resources, planning considerations for the future were analyzed and shared and final products were organized using a planning rubric. In considering the supports for the case study work students would engage in, Peter and Marie, had to be clear on what they wanted students to demonstrate and be able to do, what curriculum expectations would be tracked for assessment purposes, what areas might involve student co-construction of success criteria and how connections to prior learning would be used as part of the assessment process. The use of various digital tools was integrated into the planning process as vehicles for students to access and assess information, as well as vehicles to communicate in different ways. Student choice was involved in which tools suited their purposes best.

The Language expectations were quite easily infused into the work – as listening, speaking, reading and writing tasks were organized. Guided reading activities included non-fiction texts

which, had appropriate content for their inquiries. Vocabulary study was infused as specific terms were important to the comprehension of economic systems were important in understanding the non-fiction reading materials that students explored. An evolving word wall was on display in each classroom and any student could add to it as they came across new vocabulary. Creative writing opportunities included reflections on building new communities. Written assignments included a letter to the editor expressing concern about the lack of social services to support their new communities and what kind of social services would be needed. Some students became very interested in the impact of immigration upon new municipalities and asked if they could write a short play about being new to the country – being immigrants with lots of skills to share but little language acquisition as yet. This interest foreshadowed the next unit on Migration that Peter had planned and so he thought the play might be an appropriate spark in a few weeks.

As the work unfolded, Peter and Marie took turns presenting mini lessons to groups about aspects of “taking action and making sense.” They used a variety of ways to document observations of student’s applying learning skills, sharing information, engagement, and developing content understanding. Mini-conferences were a help with some students who were struggling to give them direct assistance. Students were grouped or paired up strategically to support learners. Work was accommodated or a modified according to Individual Education Plans. Collaborative work took place within their own classrooms and across classrooms if timetables allowed.

As the unit’s work began to wrap up, groups took turns sharing with other groups their findings and conclusions in their case studies. Peter also negotiated with Grade three teachers that groups would visit their classes and share their work as a part of the Grade Three program which includes urban and rural communities.

Students explored, discussed, read, debated and wrote as they developed their case studies. They were asked in their final products to distinguish between primary sources of information and secondary sources of information. Their communication of the results of their inquiries would include slide shows, radio interviews, short videos, oral presentations, podcasts, powerpoints, written reports, photographs, charts and posters. A rubric was co-constructed as to what elements needed to be in each presentation. A checklist was provided by the teachers prior to products being considered ready for presentation for assessment of learning. Students were encouraged to ask questions or send emails asking questions of the teachers to clarify content areas or vocabulary. Feedback was informal and frequent as just-in-time information was valued by all.

In Conclusion

Yes, this is an ambitious plan for grade 8 students but very possible in classrooms where prior knowledge is respected, where a variety of learning strengths are honoured, where co-operative and collaborative learning skills are emphasized, where purposeful conversation is encouraged, where strong relationships are built, and where mindful engagement is the goal. As Barron and Darling Hammond offer:

The focus has gone beyond the practical benefits of collaboration for individual learning to recognizing the importance of helping children develop the capacity to collaborate as necessary preparation for all kinds of work (2008, p. 19).