Personalized Learning in BC: Interactive Discussion Guide
Michael Fullan, The Moral Imperative of School Leadership

“Everyone, ultimately, has a stake in the calibre of schools, and education is everyone’s business.”

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Message from the Minister of Education

Hi, I’m George Abbott. I have the honour of being the Education Minister in British Columbia. We’re fortunate to have in BC a good education system. It was good for me; it was good for my children; and I hope it will be good—or even a great—system for my grandchildren.

There is much agreement in most jurisdictions that the way to get from good to great is through personalized learning. Personalized learning is an opportunity for every child, every student, every learner to do their very best in education.

We’ve asked students how they believe we can get from good to great; how we can bring personalized learning into their classrooms. Now, we’d like you to respond to the same questions. We’d like you to tell us how you think we can use personalized learning to take British Columbia’s educational system from good to great. Thank you.

This interactive discussion guide is part of an ongoing dialogue to create an education system that enables each learner in BC to meet his or her full potential—a world-class education system that is both flexible and rigorous, and that reflects current understanding of how students learn and can be effectively supported.

The following pages present ideas, provide examples, and pose questions to inform discussion at the local and provincial levels.

This multi-layered guide is structured in tabs. Each tab allows you to dig deeper into various topics:

Tab 1: Provides an overview of the topic and may include some interactive questions for your response.

Tab 2: Describes in more detail the topic in Tab 1 and may also include interactive questions.

Tab 3: Reflects research that relates to the topic.

We need your input! There are nine questions spaced throughout Section 2 of this guide that give you an opportunity to contribute your ideas and perspectives on Personalized Learning in British Columbia. Personal information is not required but to help us organize your responses, please answer the following question:

I am a  [ ] Teacher  [ ] Parent  [ ] Student
## Personalized Learning: From a Learner's Perspective

### Early Years
- I am learning through play, from my teacher and increasingly from others
- I am developing my unique character as a learner
- I am learning about my world and my community

### Middle Years
- I am learning from my teachers as well as others
- I apply my reading, writing and math skills
- I explore things in which I am interested
- I am becoming responsible for my learning and planning

### Grad Years
- I know what I need to do to be successful
- I work by myself and with others in inquiry and project-based learning situations
- I meet with my teachers regularly to ensure I am on the right track to meet my goals.

### Teachers
- I am learning through play, from my teacher and increasingly from others
- I am developing my unique character as a learner
- I am learning about my world and my community

### School
- I provide me with rich learning environments and opportunities, and observe and assess my progress
- I guide me and my family in planning my learning
- I facilitate and teach me how to read, write and do math

### Family
- I help me develop my personal learning path and work toward my goals
- I receive frequent feedback on my progress
- I have lots of opportunities to discuss my progress with my teachers

### Community
- I has safe places where I can expand my learning
- I has a public library where I can get information and use technology
- I has people who can help me as I learn
- I supports me in my project and inquiry-based learning

### Personalized Learning

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<th>Grad Years</th>
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### Interactive Discussion Guide

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- Middle Years
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Many teachers in BC already use personalized approaches to learning but these approaches are often carried out in isolation. Supporting processes, policies, and structures need to be established province-wide. These include:

- Identifying and building on promising examples of personalized learning
- Redefining the roles of the school, teacher, student, and parent/family in the learning process
- Recognizing the critical role of effective instruction in enabling personalized learning
- Improving connections between student learning, curriculum, instruction, classroom-based assessment, and province-wide assessment
- Implementing flexible but rigorous curriculum, assessment and reporting tailored to each student’s interests and abilities
- Redefining our concept of time in the education system (e.g., school day, semester or year-long courses)
- Implementing information and learning management systems that support and improve student learning
- Ensuring equitable access to technology that supports learning
- Developing centres of innovation that will explore and evaluate new approaches before implementing them on a broader scale
- Using evidenced-based research to improve the effectiveness of personalized learning practices
- Funding our education system to support effective personalized learning practices
- Refining legislation to increase flexibility and innovative practice
British Columbia is a vast, unevenly populated province. Most of our over four million people live in urban centres, but we also have hundreds of vibrant and unique rural communities. Urban and rural communities offer different types of opportunities and face distinct challenges in providing high quality early learning experiences to children. Our province is culturally diverse, reflecting the history of its Aboriginal peoples as well as generations of immigrants, and this diversity is increasing.

Quick BC Stats

The K-12 system serves:
- approximately 580,000 public school students
- 69,000 independent school students
- 2,400 home-schooled children

Included in the numbers above are:
- Approximately 64,000 Aboriginal students
- 4,300 francophone students and 44,000 French Immersion students
- 58,000 students with special needs
- 71,000 students enrolled in Distributed Learning programs

Student Achievement

- BC is among the top performing jurisdictions in science, reading and mathematics (PISA 2006)
- We have some of the highest transition rates to post secondary education in the country
- The Dogwood Completion (graduation) rate is 80% ...but it has not improved in the last five years
- ...and the graduation rate for Aboriginal students has remained at about 50% during this time
- Every year, about 10,000 students leave the system without graduating
- Of the students who graduate about one in five cannot read at the international standard
Imagine an education system that...

Values excellence; high standards are set for all learners and they are given the support needed to meet those standards.

Actively involves learners in designing their own learning experiences that integrates their interests and passions.

Responds to the uniqueness of every learner with flexibility in where, when, and how learning takes place.

Provides parents with more choice along with meaningful opportunities to be engaged in their child’s learning.

Views teachers as facilitators of learning who are supported by: world class teacher preparation, high standards of certification and professional development opportunities tailored to the individual needs of teachers.

Gives learners the literacy and numeracy skills needed to pursue and fulfill their dreams.

Helps learners develop skills, knowledge and competencies they need not only in school and more importantly in life.

Provides all learners technology to connect them to learning opportunities around the world.

Ensures teachers have the technological tools to best engage students and parents in innovative ways.

Interactive Discussion Guide
Section 2: What Could Personalized Learning Look Like?

Guiding Principles

This section describes what Personalized Learning could look like based on learning science and informed by BC’s principles of learning, which include:

- **Principles of Learning** from the British Columbia curriculum
- **First Peoples Principles of Learning** from English First Peoples Grades 10, 11, 12 curriculum
- **Nine Early Learning Principles** from the Early Learning Framework

Personalized learning for each student in British Columbia means a shift from delivery of a set of broad, uniform learning outcomes and courses throughout the Pre-K to 12 Education Program, to learning that is increasingly student-initiated, self-directed, and interdisciplinary and that is facilitated by the teacher and co-planned with students, parents and teachers. Rigorous learning requirements will continue to be the core of the education program; the amount and nature of required core learning will change as students progress through the program.

**Question 1**

How do you think roles of students, parents, teachers, schools, the community and school districts could change in a system built around personalized learning?
Learning is truly a life-long endeavour. It happens along a continuum – not in separate educational “programs”. Intellectual development goes hand-in-hand with physical, social and emotional development. No two children will develop in all four domains at exactly the same pace but there are generally-accepted milestones along the way. Many attributes of early learning can be fostered through life – curiosity, a sense of personal well-being, thinking and reasoning, creativity and a zest for life and learning.

Education changes gradually as learners move through the continuum of human development. There are consistent “should-be’s”:

- Learning takes place in the home, school and community.
- Foundation skills (reading, writing, oral language and numeracy) are important.
- Competencies (e.g., communication, creativity, innovation, collaboration, critical thinking and problem-solving) develop over time.
- Learning experiences connect with students’ interest and passions.
- Teaching/learning strategies are appropriate to learners’ stage of development.

But, the “should-be’s” look different as learners grow and develop; and could look different with a personalized approach to learning.
What Will Our Students be Learning?

Personalized learning combines the “how” and “what” of learning. A personalized approach recognizes that there are still core requirements and expectations. There are still required skills – reading, writing, oral language and numeracy – and there is still required knowledge in various subjects or disciplines. However, with personalized learning there will be increased emphasis on competencies. Our learners will develop these competencies by applying their skills and knowledge in new, often interdisciplinary situations.

Competencies

- social responsibility
- global and cultural understanding
- environmental stewardship
- healthy living
- ethics
- collaboration
- creativity
- innovation
- critical thinking and problem-solving
- digital literacy

Question 3

How do we shift our current educational program to focus on competencies?

Question 4

How do we best determine the competencies we want our students to master?
Interactive Discussion Guide

As the foundation of BC’s education program, the provincial curriculum must be both flexible and comprehensive. The provincial curriculum will play a critical role in personalizing education for all learners in BC and ensuring equity of outcomes across the province. By following the provincial curriculum, all learners will develop the knowledge, skills and competencies needed in the future and will have opportunities to extend their learning beyond mandated learning concepts into other areas of interest.

**Context**

Over the past several years, teachers, administrators, and other education partners have said:

- British Columbia’s current curriculum has too many prescribed learning outcomes.
- As a result of too many learning outcomes, teachers do not have the autonomy or time to tailor curriculum to learners’ needs.
- BC’s curriculum should focus more on higher-order concepts than simple and discrete facts.

In order to personalize learning, provincial curriculum will need to be renewed, not merely revised. All BC curriculum would:

- be rigorous (high standards), deep (emphasizing higher order concepts over isolated facts), flexible (more opportunities to explore areas of interest), and manageable (fewer prescribed learning outcomes)
- emphasize the value of disciplines, foundation skills, and 21st century competencies
- allow teachers and students to move beyond course-based delivery, towards connected or interdisciplinary units of study
- be based on constructivist pedagogy and support co-construction and inquiry-based approaches to teaching and learning that are embedded in the Principles of Learning

An example

- **Today:** Grade 4 Social Studies has 19 Prescribed Learning Outcomes (PLOs).
- **In the Personalized World:** Grades 4-9 Social Sciences could have 6 PLOs at a higher level and a small number of topics for each grade.

Click to read the PLOs and Topics

**Question 5**

What might this look like for other ages and stages?

NOT ACTIVE

submit
Assessment is the process of gathering evidence of what a student knows, understands, and is able to do and determines how well they are achieving the learning outcomes of a subject or course. Assessment can take many different forms, such as observations, peer and self-assessments, group work, essays, responding to problems, discussions, conferences, homework, performance assessments, projects, portfolios, and tests. In BC, the use of the performance standards (hover here for detail) ensures high standards are consistently applied within the classroom and across classrooms, schools and districts.

All forms of assessment are intended to support learning. Assessment for learning, assessment as learning and assessment of learning all have roles in improving student learning. The key is aligning assessment with its purpose.

The report published Rethinking Classroom Assessment with Purpose in Mind show that traditionally the focus has been on assessment of learning where teachers measure student learning after the fact (Diagram 1). To ensure students are acquiring essential skills such as self-regulation, a shift towards assessment as learning is required where students evaluate and adapt their own learning (Diagram 2).

Diagram 1. Traditional Assessment Pyramid

Diagram 2. Reconfigured Assessment Pyramid

The growing importance of competencies will mean we will need to determine appropriate and reliable ways to assess important skills such as collaboration, creativity and critical thinking. System-wide measures will still be needed to ensure students are meeting high standards and our graduates have the knowledge, skills and competencies they require.

Personalized learning will change many of our educational concepts (e.g. “classroom”, “curriculum”, “school day and school year” “teacher” and even “school”). How could personalized learning change our concept of “assessment”?

Exit measures will still be important. What should they look like?
In an increasingly student-centred education system, we will see a wider variety of instructional approaches that focus on the exploratory nature of learning. These approaches could include:

- teachers becoming co-learners with their students, using inter-disciplinary approaches and working in teams of teachers to support students;
- students being provided with more time to reflect on what they are learning and why they are learning it;
- teachers facilitating learning experiences for students beyond the classroom that contribute to the community at large;
- using the community and local environment as the classroom;
- teachers providing students with real life problems requiring a team-approach to develop a variety of solutions; and
- recognizing and providing for a variety of ways for students to express their learning.

These instructional approaches are not new. Constructivism, problem-based and project-based learning, and other methods of teaching all support the belief that children are natural learners and that they have an innate capacity to learn and provide hands-on relevant learning experiences for students.

Question 8
As a system, how do we best prepare and support teachers?
We increasingly use technologies such as Web 2.0 applications, online content, and data collection/visualization tools to research, collaborate, communicate, design, and create. In school, students should develop the competencies to use these emerging technologies effectively.

Personalized learning tailors curriculum, instruction, and assessment to individual student needs. Technology-based planning, assessment, evaluation, and reporting systems are needed to manage this complexity.

- Student use of technology will be highly mediated by teachers.
- Students begin to use digital picture, video, and audio tools to develop creative and cooperative competencies.

- Students use the skills garnered in their early years to explore the digital world with growing sophistication and proficiency. They investigate an increasing variety of resources and materials. As their levels of social development increase, they are able to view these materials with greater degrees of critical insight.
- Teachers guide appropriate use of technology for learners.

- School is a “base camp” for learning within the school, in the local community, and beyond. Students move among spaces that are most relevant to their current projects or programs.
- The focus in the upper years is to increase and extend competencies developed in the Middle Years through independent, small group, and large group learning that may occur any time of day.
- Teachers work with a wide range of ICT tools to work including digital tools and resources for developing and implementing relevant learning experiences.

**Early Years**

**Middle Years**

**Grad Years**

**Teachers**
Reporting is an important process for improving learning. At the individual student level, reporting is the way that teachers, parents and learners themselves communicate with each other about a learner’s progress. Reporting is also how various levels of the education system communicate with the public about how well each level of the system is performing.

**Students can:**
- understand how well they are doing
- focus on areas of improvement
- ask questions of the teacher
- try different learning strategies
- use the reports as an agenda for talking to their parents, and teachers
- have a record of achievement for the future.

**Teachers can:**
- better understand each individual’s achievement, and the achievement of their class(es)
- adjust their approach to individual students to help them improve, and fit their pedagogy to the needs of the class.
- use the reports as a common base for communication with parents, including discussing ways in which parents can support their child’s learning
- use the reports for discussions about student achievement with other teachers
- discover insights into their own pro-D directions
- use the reports to support discussions with principals about student achievement, pedagogy, and resource support.

**Parents can:**
- know how well their children are doing
- use the reports to support conversations with their children and teacher about what needs to be improved and how that will be done
- how they can support their children’s learning
- find out if improvement is taking place
- understand whether changes should be made in how their child’s learning is supported.

**District Staff can:**
- understand patterns of achievement and difficulties with various groupings of student across the district
- make evidence-based decisions about resourcing areas of need, introducing and evaluating programs, communicating to the public and the board, and developing continuous improvement processes
- use reports to support discussions with principals about education directions and with Ministry of Education staff about resourcing and provincial policies.

**Principals can:**
- use reports to understand individual student achievement as well as patterns of achievement among groups of students in the school
- support teachers in their discussions with individual parents
- understand patterns of student achievement across the school make better decisions about allocation of school programs and interventions
- use reports to talk to teachers about pedagogy and professional development
- use reports in discussion with other principals and with district administration about strategies for improvement.

**Ministry of Education Staff can:**
- better understand patterns of student achievement across the province
- use reports based on research and evaluation to inform policy decisions and generate knowledge that can be disseminated through the system
- use reports as a critical guide to communicating with schools district administrators and engaging the public.

**Interactive Discussion Guide**

**Question 9**

How would having information about their children’s progress that is available to parents on a continuous basis impact teaching and learning?

**Teachers can:**
- use reports to understand individual student achievement, and the achievement of their class(es)
- adjust their approach to individual students to help them improve, and fit their pedagogy to the needs of the class.
- use the reports as a common base for communication with parents, including discussing ways in which parents can support their child’s learning
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- discover insights into their own pro-D directions
- use the reports to support discussions with principals about student achievement, pedagogy, and resource support.
Accountability: being responsible to students, parents and the public for educational outcomes.

Co-construction: teachers and learners working together to build knowledge and develop competencies.

Collaboration: working together with other people to achieve a common goal.

21st Century Skills: foundation skills – reading, writing, oral communications, numeracy – plus competencies such as innovation, creativity, critical thinking and problem solving, ethics, global and cultural awareness, environmental stewardship, collaboration, technological literacy and making healthy choices.

Competency: a combination of knowledge and skills that a learner can apply in new situations.

Competency-Based Assessment: assessment that determines what a learner knows and can do in specific situations.

Competency-Based Learning: learning that develops human characteristics such as: thinking, organization, acting, creating, learning, memorization, and communication.

Constructivism: a learning theory that people actively construct knowledge in order to make sense of their world and that people develop new knowledge and skills by using prior learning to adapt to new situations. This theory sees teachers as coaches who help students to develop strategies to construct meaning and solve problems.

Contextualized Learning: how learners develop knowledge and skills for real-world uses.

Critical Thinking: thinking skills that can be used to solve complicated problems or choose from several different possible actions.

Differentiated Instruction: because students differ significantly in their interests, learning styles, abilities, and prior experiences, teaching strategies, materials, and pace must vary accordingly.

Environmental Education: teaches students about the environment and its challenges, develops skills to do something about those challenges, and encourages wise decision making.

Innovation: new ideas or new ways of doing things. It could involve new inventions, discoveries, making decisions differently, being creative and imaginative.

Interdisciplinary Studies: education that blends subjects that are often studied separately, for example: English and science. Interdisciplinary studies allow students to learn how subjects relate to each other and how skills and knowledge in one area can be used in another.

Learning Outcomes: what students can demonstrate that they actually "know and are able to do", rather than the list of topics or description of the material that has been taught.

Literacy: the ability to read and write. Today, finding information often involves using computers and other communications technology – this is known as digital or multi-media literacy.

Multimedia: different ways of providing information, such as text, sound, video, animation and others. Electronic technology, such as computers, is often used to provide this information.

Numeracy: the ability to use numbers and math concepts, including basic numbers, orders of magnitude, geometry, algebra, probability and statistics in order to solve real-world problems.

Parental Involvement: the participation of parents at home, in the community and at school in supporting the educational success of their children.

Glossary
**Glossary**

- **Performance-Based Assessment:** assessment of a learner’s ability to use knowledge or skills in realistic or authentic situations. Such assessment is often done using a rubric or holistic scoring guide.

- **Personalized Learning:** Personalized Learning provides individual learners with the differentiated instruction and support they need to gain the required knowledge, skills and competencies and also provides them with the flexibility and choice they need to develop their individual interests and passions.

- **Project-based Learning:** learning activities designed to help students develop competencies such as collaboration and teamwork as well as critical thinking and problem-solving. Well-designed project-based learning mirrors real-world situations and helps prepare learners for 21st century work places and communities.

- **Student Engagement:** students feel connected to what they are learning because they have been involved in their education in a meaningful way. Engaged students are motivated to exercise the discipline needed to dig deeper and think more broadly.

- **Technology Literacy:** Being able to use, manage and understand how different parts of the technological world fit together and affect people.

Sometimes referred to as “digital literacy.”

**Bibliography & Supplemental Readings**

This section is organized by topic. It includes information about the sources cited in this discussion guide as well as other resources readers may find of interest.

**Topic: neuroscience**

Links to Canadian researchers working in the fields including brain development, early learning, language acquisition, self-regulation, behaviour. The sites have general information for parents and educators.

- **Adele Diamond, PhD:** director of the Developmental Cognitive Neuroscience Lab, University of British Columbia [www.devcogneuro.com/](http://www.devcogneuro.com/)

- **Fraser Mustard, MD, Fraser Mustard Chair in Childhood Development, Alberta Children's Hospital and University of Calgary:** [www.frasermustardchair.ca/resources/](http://www.frasermustardchair.ca/resources/)

- **Stuart Shanker, PhD, director of Milton and Ethel Harris Research Initiative, York University:** [www.mehri.ca/people/shanker.html](http://www.mehri.ca/people/shanker.html)

**Topic: adolescent learners and student engagement**

Bibliography & Supplemental Readings


Middle Childhood Inside and Out: the Psychological and Social Worlds of Children 9 – 12, a report of research undertaken by the United Way of the Lower Mainland, the University of British Columbia and the Human Early Learning Partnership. 2010 http://www.uwlm.ca/why-united-way/overview?quicktabs_3=3#quicktabs-3

Stuart Shanker, Self-Regulation... What is it and why is it important for learning? http://www.bced.gov.bc.ca/early_learning/webcasts1.htm

**Topic: system reform**


**Topic: student achievement**


**Topic: curriculum**


Bibliography & Supplemental Readings

Council of Minister of Education, Canada: a report of research undertaken by the United WMinisters of education discussed how provinces and territories are addressing the broad range of skills that young people will need to be fully engaged workers and citizens in the knowledge society of the 21st century. http://www.cmec.ca/Press/2011/Pages/2011-02-23.aspx

International Baccalaureate Learner Profile: describes the type of learner this program would like to develop. http://www.ibo.org/programmes/profile/

**Topic: assessment and data use**


The BC Performance Standards, developed for voluntary use in B.C. schools, they describe the professional judgments of a significant number of B.C. educators about standards and expectations. http://www.bced.gov.bc.ca/perf_stands/

Sample Dynamic Report. Click the example below to see some ways dynamic reports could change the way in which we access and use information (requires audio). Intro to Student Centred Reporting - Feb 2010.wmv

**Topic: BC perspectives**


21st century learning… Widening the frame of focus and debate: A BCTF Research discussion paper by Charlie Naylor, Ph.D. http://www.sd43.bc.ca/NewsEvents/PDCalendar/Documents/21st%20Century%20Learning%20Widening%20the%20Frame%20of%20Focus%20And%20Debate.pdf


**Topic: technology and digital literacy**


Bibliography & Supplemental Readings

**Topic:** national and international comparisons

**Canadian Education Statistics Council, Education Indicators in Canada: An International Perspective, Ottawa, 2010**


**OECD publications based on data from the Programme for International Student Assessment (PISA)**

- **Strong Performers and Successful Reformers in Education, Organisation for Economic Cooperation and Development (OECD) 2010.** Canada is among the jurisdictions profiled.

- **PISA 2009 Results: What Students Know and Can Do: Student Performance in Reading, Mathematics and Science, Volume I, Organisation for Economic Cooperation and Development (OECD) 2010.**

- **PISA 2009 Results: Overcoming Social Background: Equity in Learning Opportunities and Outcomes, Volume II, Organisation for Economic Cooperation and Development (OECD) 2010.**


- **PISA 2009 Results: Learning trends: changes in Student Performance since 2000, Volume V, Organisation for Economic Cooperation and Development (OECD) 2010.**

- **Against the Odds: Disadvantaged Students Who Succeed in School, Organisation for Economic Cooperation and Development (OECD) 2010.**

- **Quality Time for Students: Learning In and Out of School, Organisation for Economic Cooperation and Development (OECD) 2010.**

**OECD Publications, policy and research, from the Centre for Educational Research and Innovation**

**OECD, Personalising Education, 2006.** A collection of essays related eight essays related to personalized learning and its potential to improve life outcomes for students.

**OECD, Innovating to Learn, Learning to Innovate, 2008.** A collection of nine essays that look at what recent research tells us about the way students learn.