

Best Practices in Canadian Education

Lenna Glade¹

¹Instructor, Faculty of Education, The University of Winnipeg, Canada
l.glade@uwinnipeg.ca, lenna.glade@gmail.com

Abstract

The purpose of this research study was to investigate and examine the curriculum, curricular strategies and conditions of the Education system in Canada that have resulted in Canada's success in the last three PISA test results. In Canada the teachers are faced with second language issues, cultural issues, aboriginal issues and inclusion of all students on a daily basis. The task of meeting the needs of such a diversity of students is daunting and yet the results on the international testing reflect a strong education system that is meeting many of the needs of Canadian students in the 21st Century.

Keywords: PISA, Critical Thinking, Problem Solving, Activity Based Learning, Inclusion, Differentiated instruction, 21st Century Skills

1. Introduction

Educational methodologies and strategies have been a major research focus in the past thirty years in Canadian Education as globalization becomes more predominant and has an impact on how countries are pursuing education. Assessments like the international Pisa testing have provided comparisons that put pressure on countries to rise to the challenge of providing an education that is highly rated in the world. Canada has attained high ratings in these tests for the past 10 years in Reading, Mathematics and Science.

Despite the fact that, in Canada, education is a provincial responsibility, there are many similarities between the provinces. Organizations such as the Council of Ministers, the Canadian Education Association and the Canadian School Boards Association regularly share information, conduct research and establish best practices and priorities in education.

PISA (Program for International Student Assessment) is an assessment conducted in 65 countries and economies of 15 year old students in the areas of Reading, Mathematics, Science and Problem Solving. PISA is conducted by member countries of the OECD (Organization for Economic Co-operation and Development). It is designed to provide indicators of the skills and knowledge of 15-year-old students that contribute to successful students, schools, education systems, and learning environments (Brochu et al.2013). PISA measures skills that participating countries agree are key outcomes of the educational process. The assessment focuses on young people's ability to use their knowledge and skills to meet real life. In the 2012 PISA tests Canada's scores ranked in the top ten of the 65 countries and economies.

The Canadian Curriculum places an emphasis on reading, mathematics, science and problem solving. Learning experts are generally united in their view that students require a firm foundation in literacy, numeracy and science to succeed in

other subjects. Higher order thinking skills and problem solving are considered necessary skills in the 21st century (Henderson. 2008).

2. Research Objectives

2.1. To determine what curriculum processes and strategies contribute to the success of Canadian students in the PISA tests.

2.2 To investigate other factors that might contribute to this success.

3. Research Methodology

A review of the literature was conducted. The researcher reviewed Canadian curriculum documents and other publications of the provincial governments. The researcher also visited many classrooms.

4. Research Results

The education system in Canada strives to provide and to facilitate a wide-range of experiences and opportunities (Province of Nova Scotia: Gifted Education and Talent Development. 2010:51). Curriculum development in Canada is a dynamic process. Curriculum documents are constantly updated to incorporate current theory and tested best practices (Manitoba Education Curriculum Development Process). The Canadian curriculum employs a variety of strategies and models for teaching. A feature of the Canadian curriculum is an attempt to ensure relevance of the learning to the students so that the students will make connections and find their learning meaningful (Dufour et al.2014:7)

Traditional learning theory is extensive. Canadian education curricular strategies and formats utilize the theories of a variety of theorists including Montessori and Vygotsky. Although the different theoretical positions are often presented separately, the Canadian approach is to synthesize theories. This has been referred to as creating a “decade for synergy” (Missingham 2009). The Canadian curriculum is based on making connections, constructing knowledge by building on prior knowledge, and involving students in meaningful tasks that relate to real life.

The Canadian curriculum incorporates strategies that require higher level thinking skills such as inference, prediction, analysis and critical thinking. With the use of critical thinking strategies, students develop skills such as reasoning, questioning and investigating, observing and describing, comparing and connecting, finding complexity, and exploring viewpoints. These skills help students to make connections and to make sense of and be able to use what they have learned (Anderson & Krathwohl. 2001:63). Problem solving requires higher level thinking skills to reach a desired outcome or goal or recognize a path to a solution (Nitko & Brookhart.2007:245). Problem solving is an important element of all content areas in the Canadian curriculum.

Educators believe that all students can learn and in Canada there is inclusion of all learners in the classroom. To accommodate the philosophy of inclusion of all students with all learning needs, differentiated instruction is used by Canadian teachers. It recognizes that there are many ways to reach student learning outcomes and that each student needs a unique mixture of basic instruction and practice to reach his or her potential. (Manitoba Education and Training, Success.1.5)

Teachers in Canada understand that children develop differently. They make sure that students have experiences that support their physical, emotional, social, cognitive and linguistic development (Berger 2013:1)

The Canadian curriculum promotes active rather than passive learning. Teachers provide students with a variety of activities to pursue an educational goal. Students have time to process the information and make sense of it. Teachers use also a variety of resources, visuals, music, and manipulatives. (Government of Newfoundland and Labrador, 2004)

Teachers in Canada engage students by modeling and interacting with children. They are encouraged to build trusting relationships with children. This trust leads children to be intellectual risk takers, knowing that their ideas and discussion will be valued. (Boyle, 2011:4)

Knowledge is created through collaboration. Students in Canada often work in partners or in groups. To help students learn how to work in groups effectively, teachers scaffold skills such consensus building, effective communication, and the ability to critique. Educators teach and assess collaboration, a critical 21st-century skill, (Miller, 2014)

Students in Canada are encouraged to become independent learners and to take responsibility for their learning. Students learn to reflect on their work and set goals to enhance or move their learning forward. They are given the opportunity to make choices in their learning, for example, students may have choice in the strategies they use to reach a goal. Students learn to make decisions that promote their own learning. (Henderson, 2008:1)

In Canada assessment informs learning. Canadians regard assessment as having three purposes: assessment of learning, for learning and as learning (Manitoba Education Assessment and Evaluation 2010). Teachers gather assessment information continuously to provide students with on-going feedback and to inform their own teaching. They use authentic assessment strategies with a variety of assessment tools to ensure that students can demonstrate their learning. The assessment *for* and *of* learning is an international movement. Across Canada this philosophy is embedded in the *Western and Northern Protocol for Collaboration in Education*, which attempts to guide best practices of assessment in Canadian classrooms (Beckett et al. 2014:2).

A critical component of the Canadian methodology is to provide purpose for the work of the students. Instructional strategies will often culminate in products or performances to share with an audience (Stiggins, 1994, p. 86). Students are encouraged to develop products that challenge existing ideas and produce “new” ideas. (Province of Nova Scotia: Gifted Education and Talent Development, 2010:110).

5. Discussion

Canada has maintained a high standard of public education that has been respected and sought after worldwide. The Canadian curriculum is written by teachers using current research and the expertise of classroom teachers. It is constantly being revised to meet the needs of the students and of the community. The curriculum is very detailed in that it discusses the pedagogy and philosophy of the use of the curricular and assessment strategies in detail as well as providing detailed activities for meeting the goals of the curriculum. The attention to the curriculum is a real strength of Canadian Education (Manitoba Education Curriculum Development Process).

While there is a thorough curriculum guide for teachers to follow, there is allowance in the teaching process in Canada for flexibility (British Columbia Ministry of Education, 2011:8). Teachers have flexibility in selecting resources when planning their lessons. To meet the needs of their students they may choose from a variety of strategies that have been developed from best practices tested by excellent teachers.

Teaching and Learning Strategies

“The process of identifying the best instructional practices is technically simple but socially complex,” (Mastery Learning 2012)

The Canadian curriculum employs many different strategies and models for teaching. Instructional strategies such as modeling, explicit instruction, guided practice, descriptive feedback, etc., are used with a variety of student groupings (whole class, interest groupings, co-operative groupings, flexible groupings, and individual students). Building on prior knowledge and scaffolding is fundamental to the instructional activities to help students to succeed in their learning.

Students are Actively Engaged

Studies show that traditional learning and teaching models lead to disengagement of students. Advancements in brain science are providing insights into how people learn. Educators in Canada endeavour to engage students fully in the learning process (Parsons and Taylor 2011). A feature of the Canadian curriculum is the emphasis on relevance of the learning to the students. Activity based learning is often project based and/or performance based giving purpose to the work of the students. Students see themselves as writers, artists, or scientists. They are involved in activities that are related to the real world and to their own interests. Children learn by doing. Canadian teachers involve students in their learning through a variety of hands-on activities. Participation in games, art, drama, role plays, small groups and other activities creates opportunities for learning by doing and active engagement through critical and transformative educational strategies.

Higher Level Thinking Skills

Higher level thinking skills such as anticipation, inference, prediction (Critical Literacy skills) are utilized regularly in the teaching process. The teacher facilitates and encourages reflection and critical thinking through inquiry, problem solving and decision making. Through these processes students become involved in such activities as judging the credibility of sources of information and making and judging the credibility of observations, making value judgments and checking consistency with known facts. In Science, for example, students investigate, design experiments, plan controls variables, and seek evidence and counter-evidence. The design process, which is a part of the Science curriculum, involves students in the processes of

proposing, creating, and testing of prototypes, products, and techniques in an attempt to reach an optimal solution to a given problem. (Manitoba Education 1999)

Problem Solving is an important aspect of the Canadian curriculum. Students not only become problem solvers but also they help to construct the problems. (Manitoba Mathematics Curriculum Framework of Outcomes 2013).

Differentiation of Learning Strategies

Canadian Education is inclusive of all students with their many needs. Differentiation of learning strategies is used to meet the needs of all students, recognizing that students have different levels of knowledge and experience. Effective educators believe that all students can learn. Teachers cannot assume students enter their classrooms with the same interests, abilities or educational background. Respecting learners means believing they can all learn but not that they all learn in the same way. Teaching must be responsive to the differences and similarities among learners. The use of a variety of processes and resources simultaneously or over time allows for greater success in reaching all learners.

Learning to differentiate instruction has strengthened the Education system in Canada as it has encouraged teachers to research and utilize a wider variety of teaching and learning strategies.

Students Learn to be Independent and Responsible Learners

Students learn to reflect on their work and set goals to enhance or move their learning forward, with the goal of becoming independent learners. Teaching students learning strategies is an essential component to helping all students to be independent learners. Learning strategies can be developed around student interest or different intelligences. For example, teachers present a variety of graphic organizers, any of which will help the student to organize for optimum learning. Students see themselves as learners and feel competent. (Thomas, 1996: 5)

Students Make Choices

Students need to learn about their own learning so they can begin to make informed choices. Teachers ensure that students understand exactly what the choices are and the implications behind the choices. This leads to student ownership of the learning. The more students understand about their own learning, the more successful they will be (Arter and Spandel, 1992:37).

Decision Making

Students, as individuals and global citizens, are required to make decisions, and increasingly, the types of issues they face demand an ability to apply scientific processes and products. The decision making process involves identifying the issue, gathering data, generating possible courses of action, evaluating alternatives, and making a thoughtful decision based on the information available. Students in Canada are actively involved in decision-making situations as they progress through their education. (Manitoba Education: A foundation for Implementation K-4 Science, 2009)

Intellectual Risk Taking

Teachers in Canada encourage students to take positive risks by establishing a non-threatening environment. Students will be more apt to participate in the learning

and take risks in sharing their ideas and trying new things if they know that it is an acceptable part of the learning process to make mistakes. (Willms et al, 2009: 12).

Assessment

In Canada teachers use a variety of assessment strategies to ensure that students have the opportunity to demonstrate what they know and what they can do. This facilitates success for every student. The assessment protocols in Canada inform learning and teaching so that teachers may focus on content and strategies which are most useful for the students at any point in time. (Beckett et al. 2014)

Authentic assessment is a goal of education in Canada. From the earliest grades students will produce stories and books for the classroom and school libraries, perform puppet shows or readers theatre for their parents, design inventions and Science projects, etc. Canadian curriculum strategies encourage the development of products that challenge existing ideas and produce “new” ideas. (Province of Nova Scotia: Gifted Education and Talent Development. 2010:110).

TH

6. Conclusion

The foundation of the Canadian curriculum is literacy, mathematics, science and problem solving. The Canadian curriculum is designed to provide students with skills and competencies that are required to be successful on the PISA tests. Canadian Education helps students to build higher level thinking and problem solving skills. Teachers try to engage students in their learning. They encourage them to be creative and to be actively involved in achieving the goals for their learning. They engage, empower and position learners for success and help students to be confident and secure in their learning. The goal is success for every student. Students are encouraged to be responsible, independent learners. Students are able to choose and design their own paths of academic exploration are more engaged and successful.

In order to retain high ratings in the PISA tests and to continue to provide students with the skills needed in our global economy, Canadian educators will need to continue to pursue excellence through curriculum updates and innovative strategies. In Canada our teachers are faced with second language issues, cultural issue, aboriginal issues, and inclusion of students with special needs on a daily basis. They must use many different strategies to be able to meet the needs of such a variety of children. Outcomes based education can be achieved in a variety of different ways and educators are experimenting with and using practices that they feel inspire the students, will provide the students with more responsibility and independence and will lead them to success.

Current 21st century literature indicates that our future citizens need to be multi-literate, creative and innovative (Shifting Minds. 2012:4). Learning is a complex system of interactive processes. There is no recipe. Global research in learning has identified competencies our youth will require for success in the modern world of ever increasing change. Writing, speaking, and computing are just a few of the necessary skills for students. Leadership skills, cooperation techniques and analysis are also important ingredients for student success. Confidence in speaking, discussion, debate, writing, and problem solving provide a good start to providing a foundation for acquiring the skills. The Canadian curriculum focuses on these essential items giving students the tools for success in the PISA tests and hopefully in our global economy.

7. Recommendations

1. Instruction should continue to reflect what we know about how learning occurs. The curriculum should include teaching of higher level thinking skills so that students are not relying on rote memory but understand what they are learning.

2. Educators must consider the research on global competencies needed for the 21st century. While Canadian students are doing well, the public believes the quality of education, needs to improve. Canada's schools produce more equitable results than almost all other countries but we need to make sure all children share the benefits of a good education. "It's time to build on Canadian success to make sure that all children and youth thrive in this rapidly changing world." (CEA. 2011)

References

- Anderson, L.W., Krathwohl, D.R., Cruikshank, K., Mayer, R., Pintrich, P., Raths, J., , M, (2001). **A Taxonomy for Learning and Assessing: A revision of Bloom's Taxonomy of Educational Objectives**. Upper Saddle River, N.J.: Pearson
- Arter, J. and Spandel, V. (1992) **Using Portfolios of Student Work for Instruction and Assessment**. Northwest Regional Educational laboratory
Retrieved 9 January 2015 from <http://ncme.org/linkservid/6629B1E9-1320-5CAE-6E63F591DCFC6822/showMeta/0/>
- Bilmes, J. (2008) **Beyond Behaviour Management**. St. Paul, MN: Redleaf press
- Bransford, J., Vye, N., Stevens, R., Kuhl, P., Schwartz, D., Bell P., Meltzoff A., Barron, B., Pea, R., Reeves. Roschelle, J., & Sabelli, N. (2005) **Learning Theories and Education: Toward a Decade of Synergy** The Life Center. Washington: The University of Washington, Stanford University & SRI International
- Beckett, D., Volante, L., Drake, S. (2014) **Formative Assessment: Bridging the Research- Practice Divide**. Retrieved 10 January 2014 from <http://www.cea-ace.ca/education-canada/article/formative-assessment-bridging-research-practice-divide>
- Boyle, M. (2011) **Sustaining Outstanding Schools: SOS: Exploring Habits of the Mind—21st century learning skills and engaging in Intellectual Risk-Taking** Retrieved 10 January 2015 from http://www.luc.edu/media/lucedu/ccse/pdfs/May11_21st_Century_Learning_Skills_&_Engaging_in_Intellectua.pdf
- Brochu, P., Deussing, M., and Chuy, M. **Measuring up: Canadian Results of the OECD PISA Study: 2012 First Results for Canadians Aged 15 (2013)**. Ottawa: Council of Ministers of Education. Retrieved 9 January 2014 from http://cmec.ca/Publications/Lists/Publications/Attachments/318/PISA2012_CanadianReport_EN_Web.pdf
- British Columbia Ministry of Education. (2012) **Enabling Innovation: Transforming Curriculum and Assessment**. Retrieved 10 January 2015 from http://www.bced.gov.bc.ca/irp/docs/ca_transformation.pdf
- CEA (2011) **A Canadian Perspective**. Retrieved from <http://www.cea-ace.ca/sites/default/files/cea-2010-superman.pdf>
- Department of Education. (2010) **Gifted Education and Talent Development**
© Crown copyright, Province of Nova Scotia

- Government of Newfoundland and Labrador Department of Education, Division of Program Development. (2014) **A Curriculum Guide** Retrieved 8 January 2015 From <http://www.ed.gov.nl.ca/edu/k12/curriculum/documents/english/index.html>
- Henderson, J. (2008) **Implementing an Extra-Help Program Where No Students Fail, Developing Students' Creative Skills for 21st Century Success.** Education Leadership, Volume 50 number 12 Alexandria: ASCD. Retrieved 9 January 2014 from <http://www.ascd.org/publications/newsletters/education-update/dec08/vol50/num12/Developing-Students'-Creative-Skills-for-21st-Century-Success.aspx>
- Levin, B. (2011) **Effective and Sustainable Public Education in Nova Scotia: Report to Nova Scotia Department of Education.** Ontario Institute for Studies in Education. Toronto: University of Toronto.
- Mayer, R.E. (2001). The promise of educational psychology, Volume II: **Teaching for meaningful learning.** Upper Saddle River, NJ: Prentice-Hall.
- Manitoba Education. (2010) **Assessment and Evaluation: The Role of Assessment in Learning.** Retrieved 10 January 2015 from <http://www.edu.gov.mb.ca/k12/assess/role.html>
- Manitoba Education. **Curriculum Development Process** Retrieved 10 January 2015 from <http://www.edu.gov.mb.ca/k12/cur/process.html>
- Manitoba Education (1999). **Kindergarten to Grade 4** Manitoba Foundations for Scientific Literacy. Retrieved 9 January 2015 <http://www.edu.gov.mb.ca/k12/cur/science/index.html>
- Manitoba Curriculum (2013) **Kindergarten to Grade 8 Mathematics Framework of Outcomes.** Retrieved 10 January 2015 from http://www.edu.gov.mb.ca/k12/cur/math/framework_k-8/full_doc.pdf
- Missingham, B. (2009). *Critical Pedagogy, Popular Education and Transformative Learning in Higher Education.* New Community Quarterly Volume 2, number 4 Summer. Melbourne: Monash University.
- Nitko, A and Brookhart, S (2007) **Educational Assessment of Students, Social Studies Canadian Economy.** Toronto: Pearson Merrill Prentice Hall
- Province of Nova Scotia (2010). **Gifted Education and Talent Development** © Crown copyright, Province of Nova Scotia
- Parsons, J. and Taylor, L. **Student Engagement: What do we know and What Should We Do.** University of Alberta: University Partners. Retrieved January 18, 2015 from https://education.alberta.ca/media/6459431/student_engagement_literature_review_2011.pdf
- Pearson, D. and Gallagher, M (1983) **The Instruction of Reading Comprehension.** Urbana-Champaign: The Center
- Shifting Minds (2012). **A 21ST Century Vision of Public Education for Canada.** C21 Canada. Retrieved 8 January 2015 from www.c21canada.org

Stiggins, R.J. (1994). **Student-Centered Classroom Assessment**. New York: Macmillan College Publishing.

