



Canadians for 21st Century
Learning & Innovation

C21 Canada Presents:

Shifting Minds INDEX

An Assessment
Metric for
21st Century
Learning





THE SHIFTING MINDS INDEX

An Assessment Metric for 21st Century Learning

How do you measure 21st Century Learning and Innovation?

The Shifting Minds Index is designed to offer measured support for the implementation of 21st Century Learning in Canada, consistent with C21 Canada's *Shifting Minds: A Vision for 21st Century Learning in Canada*. The Index provides a set of common criteria and indicators for organizations to use to assess their current practices and evaluate their implementation of 21st Century Learning competencies. Feedback from assessment rubrics can inform further strategic planning and development of 21st Century models of learning and innovation that have enabled competencies to be achieved.

How do you use the toolkit?

The *Shifting Minds Index* rubrics provide a framework of metrics and performance indicators for the alignment of 21st Century Learning outcomes with current practice through professional dialogue and collaboration for growth and development. The rubric framework allows individuals and learning communities within organizations to

engage in self-assessment, peer review and ongoing feedback for growth by using performance outcomes and indicators as targets for current and desired practice.

The Index features a collection of rubrics for each specific outcome for Learning Competencies and System Design Elements defined in *Shifting Minds: A Vision for 21st Century Learning in Canada*. A continuum of performance indicators is matched to a score from 1 to 3. Scores are reflected in a relative Index measuring progress along a continuum of 21st Century competency. The generation of data and scoring indices allows for correlations to be made and the impact of system enablers to be further analyzed.

What are 21st Century Skills and Competencies?

Shifting Minds: A Vision for 21st Century Learning in Canada describes seven competencies required by students for success in the 21st Century: Creativity, Innovation and Entrepreneurship, Critical Thinking, Collaboration, Communication, Character, Culture and Ethical Citizenship, and Computer and Digital Technologies. These competencies are identified as essential for personal, social, and economic success in the knowledge and digital era by organizations and researchers around the world. The OECD, European Union, UNESCO,

Partnership for 21st Century Skills in the United States, the Government of Canada, the Conference Board of Canada, Canadian Council of Chief Executives, other employability groups and individual employers identify these same competencies as Essential Skills or Workplace Skills required to advance today's innovation driven economy. Jurisdictions around the world are redesigning their public education systems to ensure the infusion of these competencies in curricular outcomes.

The *Shifting Minds Index* describes performance indicators for each of the learning competencies. These indicators generate an evaluation metric for achievement and provide information to support and target goals for ongoing growth and improvement.

What factors engage 21st Century Learning and allow it to flourish?

Shifting Minds: A Vision for 21st Century Learning in Canada identifies the core elements of public education required to create environments essential for fostering deep and personal understandings of 21st Century competencies. *The five elements identified in Shifting Minds include:* curriculum, pedagogy, learning environment, governance, and citizen engagement.

The Shifting Minds Index provides structured rubrics to engage a process of professional collaboration to assess strategic plans and 21st Century design elements and to identify current practices that have been successful in supporting 21st Century Learning. Information provided by rubric indicators can be used to focus professional dialogue and encourage professional development through self-assessment, peer review and ongoing feedback.

How can the data and information gathered from the Index be used?

Governments and Ministries of Education: To guide the design and implementation of their 21st Century models of learning across their education systems.

School Boards and Districts: To guide the design and implementation of district plans, stakeholder engagement activities, and staff development plans.

Schools: To gather data for school improvement and to guide and support professional development through collaboration.

Teachers: To engage in self and peer assessment and participate in professional collaboration on how best to achieve 21st Century Competencies.

Technology Leaders: To facilitate ICT and social media applications to enable and accelerate learning as well as to extend learning and collaboration beyond the classroom.

Education Companies: To engage more effectively in the education market and to support the education communities with which they are conducting business.

Private Sector Companies: To guide the design and implementation of business and industry skills development and recruitment programs to ensure the level of expertise in 21st Century competencies is being continually upgraded.

Not for Profit Organizations: To guide the design and implementation of skills development and recruitment programs to enhance the level of 21st Century competency expertise within these organizations.

21st Century Learning **COMPETENCIES INDEX**

1	If Yes →	2	If Yes →	3	SCORE
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CREATIVITY, INNOVATION AND ENTREPRENEURSHIP

21st Century Learners apply creative thought processes and have the capacity to create and apply new knowledge in innovative and entrepreneurial ways to create new products or solve problems of value.

Learners apply knowledge construction in new problems and unknown situations that benefit people other than the learner.	Learners innovate and engage a spirit of entrepreneurship when they share their ideas in the real world for implementation by an audience outside the classroom.	Learners engage their intrinsic interests, creativity and entrepreneurial skills that will help them thrive in future life and work.	
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CRITICAL THINKING

21st Century Learners demonstrate a deep understanding of and capacity to apply the elements and processes associated with critical thinking and problem solving.

Learners acquire, process, interpret, rationalize and critically analyze large volumes of potentially conflicting information to make informed and timely decisions.	Learners apply higher order thinking skills in a logical process to solve ill-defined problems by identifying and describing the problem, critically analyzing the information, creating knowledge required, framing and testing various hypotheses.	Learners take action and formulate creative solutions for authentic use in real world problem solving relating economic, financial, environmental and social contexts.	
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COLLABORATION

21st Century Learners demonstrate deliberate and appropriate interpersonal skills in their interactions with others, lead or work in a team, maintain sensitivity for cross-cultural issues and process, create new ideas together and engage in shared decision-making by collaborating across networks using various information and communication technologies.

Learners demonstrate developmentally appropriate capacity for self-awareness, social awareness, self-management, responsible decision-making and relationship skills.	Learners engage reflective feedback from self, peers, mentors and teachers to refine collaborative competencies and build positive learning relationships.	Learners lead and serve teams, applying collaborative competencies to engage others in a variety of contexts, including the capacity to manage and resolve conflict.	
Learners work together in pairs or groups and share responsibility for their collective work.	Learners reference success criteria to inform group decision-making about the content, process and product of their work together.	Learners demonstrate interdependence by negotiating individual and group roles and tasks and seeking consensus on the process and design of how individual tasks come together.	

Learners collaborate with each other, teachers and mentors using various information and communication technologies to obtain external support.	Learners extend their collaboration to include multiple perspectives on sensitive issues and cross-cultural perspectives.	Learners engage in global collaborations to gather economic, financial, social and environmental perspectives using a variety of ICT means.	
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COMMUNICATION

21st Century Learners communicate using a variety of media and technologies and use technology to develop 21st Century competencies in the context of core subjects and engaging human interaction to build understanding and make meaning.

Learners know, understand and can access content vocabulary required in constructing knowledge from essential skills in their native language with multilingual capacity as an added asset.	Learners critically interpret and evaluate ideas shared through a variety of media and technologies.	Learners engage and use active listening strategies to engage cooperation and interpersonal knowledge construction.	
Learners access, analyze, integrate and manage large volumes of information and sources for knowledge construction.	Learners access and use 21st Century digital technologies and web tools to extend communication to a variety of audiences.	Learners apply literacy learning to second language acquisition.	

CHARACTER

21st Century Learners apply highly developed interpersonal traits and strength of character in engaging in the knowledge economy and social environment that is complex, fast-paced, multi-cultural and stressful in nature.

Learners demonstrate self-direction, resilience, tolerance and personal productivity, through a commitment to life-long learning when faced with change.	Learners engage decision-making which is tolerant, ethical and fair, modeling a proactive disposition and seeking to do "the right thing the right way."	Learners lead responsibility and seek accountability in all aspects of knowledge building, the social environment and the economic community.	
Learners demonstrate collaborative skills of self and social awareness, self-regulation and relationship skills in managing and supporting personal relationships.	Learners identify and maintain responsibility for emotional, mental and physical self-care needs.	Learners model self-confidence, perseverance and empathy in leading and supporting small group and large scale community interactions.	

CULTURE AND ETHICAL CITIZENSHIP

21st Century Learners are global citizens with a clear identity of their own history and culture as well as sensitivity and respect for the sustainability of diverse identities and cultures through local, national and global action.

Learners demonstrate understandings of key ideas and concepts of democracy, social justice and human rights.	Learners recognize societal and environmental trends and issues and apply the impacts of these in ethical leadership and decision-making.	Learners model skills and dispositions for effective and appropriate civic engagement and action.	
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Learners demonstrate understandings of the history and culture which shapes Canada and its people, including the contributions of First Nations Aboriginal communities.	Learners recognize and appreciate cultural and societal diversity in local, national and global communities.	Learners can critically analyse the past and present and apply those in problem solving or planning for the future.	
Learners demonstrate a developmentally appropriate understanding of Canada's political, social, economic and financial systems in a global context.	Learners demonstrate an understanding of Earth's systems and the interdependence of social and economic systems on global sustainability.	Learners perform local sustainable actions which demonstrate our fundamental connection to all living things and the collective impact of humans on the global environment.	

COMPUTER AND DIGITAL TECHNOLOGIES

21st Century Learners use computers and digital tools to access information and create knowledge, solutions, products and services and engage social media to support learning.

Learners exercise the power of digital tools in creating new knowledge and connecting it to the world.	Learners use social media to inform practice and decision making and extend their perspectives.	Learners are fully engaged in the freedom to learn and the freedom to contribute and participate on a global scale using the full capacity of digital technologies and the Web.	
Learners develop intellectual and attitudinal dispositions towards creating new knowledge and doing things with it in the world.	Learners continually discover and create digital learning tools and resources to explore new content, concepts, information and ideas.	Learners develop autonomy by using technologies to create and apply new knowledge while connecting with peers and experts around the world.	

21st Century Learning **SYSTEM DESIGN ELEMENTS INDEX**

CURRICULUM OUTCOMES

	1	<i>If Yes →</i>	2	<i>If Yes →</i>	3	SCORE
LC1 21st Century competencies are infused throughout all learning outcomes to support higher levels of learner performance in literacy and numeracy and driven by assessment regimes that are complementary to 21st Century Learning outcomes and pedagogical practices.	Learning goals and achievement targets for Literacy, Numeracy and STEM learning goals and learning outcomes are articulated in the Strategic Plan.		Continua for literacy and numeracy instruction guide individualized student assessment planning across the school.		All staff clarifies and assumes support roles for literacy, numeracy and STEM goals.	
	Learning goals and 21st Century competencies required to achieve curricular goals are identified and articulated.		Students self-assess their progress on targeted outcomes, and revise their work according to feedback from peers and teachers.		Learning activities and experiences are refined to increase expectations for higher order thinking required to develop 21st Century Competencies.	
LC2 Learning outcomes and associated activities are relevant to engage the 21st Century digital learner and selected to increase instructional time and allow for depth of understanding.	Knowledge construction by interpreting, analysing, synthesizing or evaluating information is the main requirement of a learning activity		Curriculum mapping and backwards design principles are used to construct learning experiences in inquiry and problem solving increase knowledge construction using essential learnings and engage deep learning for 21st Century Competency achievement.		Student can articulate how their learning and skills are relevant in future life and work.	
	A foundation of common essential skills required for accurate and meaningful application in knowledge construction are identified through professional collaboration and delivered using shared strategies of differentiated instructional support.		Alternative programming, intervention support and special needs plans are engaged to ensure student access to essential skills and knowledges for the full range of learners.		Adaptive technologies allow appropriate student access to ICT enhancement of essential skills and accelerate deep learning.	
LC3 Learning outcomes are rationalized across subject areas to reduce redundancy while strengthening cross-curricular relationships.	School teams engage in developing cross-curricular learning and service projects to focus learning outcomes, which eliminate repetition, redundancy and relate skill development to future life and work.		Student-led service learning and sustainable development projects are integrated in long term and daily learning.		Students extend their learning through community-based projects and global communication and outreach with others.	
	Student engagement and achievement reported is less than targeted outcome.		Student engagement and achievement meets goals set.		Student engagement and achievement exceeds goals set.	

LC4 Digital technologies are harnessed to ensure data generation is dynamic and timely and able to be mined effectively and efficiently to allow timely adjustments and interventions.

ICT including social media is accessible and ubiquitous to WI-FI on a 1:1 basis, daily as needed.	ICT integration in curriculum and access to social media accelerates student into deep learning with increased autonomy.	Learners access ICT and social media to extend collaboration beyond the school to address societal or environmental issues.	
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PEDAGOGY OUTCOMES

1 *If Yes →* **2** *If Yes →* **3** **SCORE**

LP1 Teachers embrace collaborative models for professional development to align practices and assessment with 21st Century models of learning and provide personalized learning opportunities to all students.

School teams are coordinated to clarify roles and build relationships to model a proactive disposition towards creating knowledge and taking action in addressing 21st Century deep learning needs.	Multi-level curricular teams and multi-disciplinary school teams share ICT-embedded pedagogies and refine scaffolded criteria for 21st Century competencies to provide developmentally appropriate reinforcement with learners.	School teams focus on building relationships that create a culture of collaboration and a predisposition to knowledge building partnerships with students.	
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Student-centred pedagogies are developed and scaffolded using proximal zones of development and strategies to activate learning.	Literacy and numeracy standards and assessment continua are used to track and support learning.	Teacher-learner relationships reflect the role of students as an equal learning partner with an increased emphasis on reciprocal and peer teaching to foster metacognitive models of how to learn.	
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LP2 Project-based learning opportunities are evident and reflect students' passions and interests and flexibility in instructional time supports *anytime anywhere* learning.

Professional collaboration focuses on developing inquiry models that engages students' intrinsic interests and develop 21 st Century competencies.	Collaboration with students, mentors and peers builds mutual learning relationships, seeks to uncover the intrinsic interests of students and gather understandings of learning challenges.	Professional collaboration focuses on scaffolding knowledge construction pedagogies, embedding innovative technologies and developing high quality feedback to accelerate student progress.	
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Student engagement and achievement reported is less than targeted outcome.	Student engagement and achievement meets goals set.	Student engagement and achievement exceeds goals set.	
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LP3 Teachers model fluency in using new technologies to engage and support student learning and apply social media appropriately within safe parameters.

Students have individualized access to the internet and digital resources to support knowledge construction and develop 21st Century Competencies.	Learning experiences require students to apply knowledge construction and 21st Century Competencies to design an ICT product for use by other learners.	Learning experiences require students to engage social media to collaborate with other learners or partners beyond the school, anywhere or anytime, in applying and constructing knowledge.	
Staff model and access ICT and social media to enable knowledge construction to develop 21st Century Competencies.	Staff uses ICT and 21st Century Models to engage student learning manage student progress and achievement.	Staff models how passion inspires collaboration to deepen learning and engagement through digital technologies and seeks to help students uncover their strengths, talents and interests.	

LEARNING ENVIRONMENT OUTCOMES

LL1 21st Century Learning spaces must be flexible and offer opportunities for both personalized and collaborative learning.

LL2 Networks are designed to facilitate seamless transition between digital devices to access the internet.

	1 <i>If Yes →</i>	2 <i>If Yes →</i>	3	SCORE
LL1	Learning environments must be ICT rich with adequate technical support and infrastructure and align with changing learner needs by respecting the learning, safety and inclusive requirements of all learners.	Student requirements for collaboration influence regular adaptations to space configurations and flexible learning time with mobile learning opportunities integrated where appropriate to ensure <i>Anytime Anywhere</i> access.	On-line learning, blended learning and virtual schools are pursued as viable and relevant options to meeting the needs of many learners.	
LL2	Ubiquitous access to ICT and Wi-Fi is available throughout the building to support learning and ensure integrity and safety and allow seamless transition between digital devices and the internet.	External or internal support for ICT maintains continuous access to meet instructional and learning needs.	Staff and students engage an active process to manage ICT support for learning.	
	Student engagement and achievement reported is less than targeted outcome.	Student engagement and achievement meets goals set.	Student engagement and achievement exceeds goals set.	

GOVERNANCE OUTCOMES

LG1 A 21st Century Model of learning articulates a strategic and focused approach and an alignment of purpose within the system.

LG2 A Strategic Plan articulates a plan for ICT that supports targeted learning and pedagogical needs.

LG3 Leadership is a shared responsibility of all partners and stakeholders reflected in collaborative and communicative design and implementation processes.

LG4 School Leaders model 21st Century skills in daily-decision making, develop school improvement plans reflection 21st Century Learning goals and support procedures and practices which promote the shift in mindset required to achieve 21st Century Learning.

	1	2	3	SCORE
	<i>If Yes →</i>	<i>If Yes →</i>		
	Central governing policies, regulations, communication and practices articulate support for creativity and innovation in the classroom.	The school is empowered and resourced to be creative and innovative in the delivery of learning: student performance and engagement.	Stakeholders, including parents recognize and encourage 21st Century competencies and engage 21st Century Models of learning in their work with the school.	
	Ubiquitous access to ICT and Wi-Fi is articulated.	ICT enhancement of student learning is observed and articulated.	ICT enhancement reaches beyond the school to address societal issues (e.g. economic, social, environmental, fiscal) .	
	School leaders build time for collaboration into daily practice and leadership is distributed to facilitate coordinated teamwork.	Staff assumes and clarify lead and follower roles and self-direct meeting times and prioritize agendas for collaboration.	The school community recognizes the work shared by coordinated school teams by participating as needed and modeling the collaborative process as a parent organization.	
	Teaching and non-teaching staff roles and learning support reflect needs of the strategic plan and are informed by group collaboration.	School Leaders model 21st Century competencies and support models for deep thinking in daily operations and decision-making.	Leadership is shared in a culture of coaching, mentoring and professional collaboration that supports innovative pedagogy.	
	Student engagement and achievement reported is less than targeted outcome.	Student engagement and achievement meets goals set.	Student engagement and achievement exceeds goals set.	

**CITIZEN ENGAGEMENT
OUTCOMES**

LE1 Parents and community stakeholders engage in 21st Century Learning Models.

	1	<i>If Yes →</i>	2	<i>If Yes →</i>	3	SCORE
	21st Century Learning outcomes are articulated in regular communication to parents and the community using class web tools accessible anytime anywhere.		School, staff members and students themselves, engage parents formally and informally to share their learning progress and engage parents as partners in both knowledge construction and support.		Community engagement offers students both in-school learning supports and authentic learning opportunities outside the classroom.	
	Student engagement and achievement reported is less than targeted outcome.		Student engagement and achievement meets goals set.		Student engagement and achievement exceeds goals set.	
LE2 Societal awareness of and stakeholder support for the return on investment of 21st Century models in terms of economic, social environmental, financial and personal are identified in the strategic plan.	Parents are actively involved in supporting the school as volunteers, committee members, sharing resources and facilities.		Parents and community members engage shared leadership roles in the school, paralleling 21st Century Models collaborative efforts to meet social or socio-economic needs (e.g.. traffic safety patrolling, lunch supervision, breakfast programs).		Community stakeholders provide opportunities for students to apply knowledge construction to solve authentic economic, societal, or environmental problems and to develop collaboration and communication skills required to thrive in future life and work.	

What references have influenced the development of the *Shifting Minds Index*?

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