



# Proceedings of the Minister's Summit on Learning

2010

## CONTENTS

|  |    |
|--|----|
| EXECUTIVE SUMMARY: A CALL TO ACTION .....  | 2  |
| KEY POINTS OF CONSENSUS.....   | 2  |
| NEXT STEPS: QUESTIONS FOR FUTURE CONVERSATIONS.....  | 3  |
| INTRODUCTION: "... THE BEGINNING OF THE CONVERSATION..." .....   | 4  |
| THE AGENDA .....   | 4  |
| DAY ONE .....  | 5  |
| DAY TWO.....   | 6  |
| 21 <sup>ST</sup> CENTURY LEARNING.....   | 7  |
| <b>WHY IS IT IMPERATIVE THAT WE HAVE THIS CONVERSATION NOW?</b> .....  | 7  |
| HOW IS EDUCATION THE KEY TO PEI'S FUTURE? .....  | 11 |
| WHAT ARE THE CRITICAL QUESTIONS IN OUR ISLAND SCHOOL SYSTEM TODAY?.....  | 12 |
| WHAT ARE 21 <sup>ST</sup> CENTURY SKILLS? .....  | 13 |
| HOW WOULD THE LEARNING ENVIRONMENT NEED TO BE DIFFERENT TO PREPARE CHILDREN FOR THEIR FUTURE? .....  | 14 |
| HOW WOULD THE CURRICULUM NEED TO BE DIFFERENT TO PREPARE CHILDREN FOR THEIR FUTURE?.....   | 15 |
| HOW WILL ISLAND STUDENTS LEARN 21 <sup>ST</sup> CENTURY SKILLS?.....   | 17 |
| EXPLORE WHY WE REVERT FROM PROJECT-CENTRED LEARNING DURING EARLY CHILDHOOD TO A MORE LECTURE-BASED TEACHING STYLE IN LATER GRADES; WHAT IS FORCING THAT CHANGE?..... | 18 |
| WHAT INFLUENCES LEARNING IN STUDENTS' LIVES? .....   | 20 |
| 21 <sup>ST</sup> CENTURY LEARNING IN PRACTICE .....  | 22 |
| HOW MIGHT WE INVOLVE THE ENTIRE COMMUNITY IN PROVIDING OUR CHILDREN WITH 21 <sup>ST</sup> CENTURY SKILLS?.....   | 22 |
| BUILDING UP A HEAD OF S*T*E*A*M .....  | 24 |
| CONTINUING THE CONVERSATION: NEXT STEPS.....   | 25 |
| AGENDA FOR THE NEXT CONVERSATION(S).....   | 26 |
| APPENDIX 1: SUMMIT ADVICE TO THE MINISTER.....   | 27 |
| APPENDIX 2 – SPECIFIC SUGGESTIONS FOR CONSIDERATION (NOT NECESSARILY CONSENSUS-BASED).....   | 29 |
| ENDNOTES.....  | 32 |

## EXECUTIVE SUMMARY: A CALL TO ACTION

The 2010 Minister's Summit on Learning was an opportunity for a group of education, business and community leaders, parents, and students, to spend two days together discussing what Island learners need in the learning environment in order to succeed in the 21<sup>st</sup> Century. The Minister wanted to ensure that the Summit would produce ideas, direction and commitment that met the needs of the Island community. Participants worked through a variety of activities and heard presentations, including a keynote address by Dr. Charles Fadel, co-author of *21<sup>st</sup> Century Skills: Learning for Life in Our Times*.

This document is a summarization of the discussion topics of the participants and their consensus feedback. It is neither a position paper nor a backgrounder on education methodologies and pedagogy. Instead, it is a synopsis of the beginning of a conversation between the Minister and Islanders on how Island learners can best be equipped for their future lives. Summit participants were fully engaged in this process, and produced thoughtful and thought-provoking insights that are captured in this report.

## KEY POINTS OF CONSENSUS

**Student-centred:** There was consensus that regardless of what curriculum or teaching methodologies were being used, the education system must be student-centred: valuing respect for the whole individual, respecting gender, language, culture and abilities.

**Evolution (not revolution) for the 21<sup>st</sup> Century:** there was a clear and widespread understanding among participants that the traditional learning model requires some modification to adapt to the changing social and economic context in which Islanders live. In the global society, students elsewhere are being given the advantages of a larger toolkit, developing not only the knowledge content, but also the skills needed to flourish in the information and imagination age; it would be a disservice to our Island learners to deny them those same advantages. The Summit acknowledged that some students do very well (or at least cope) in traditional, lecture-based formats, but there is room to improve. The vast majority of Summit participants supported the call for re-balancing the use of the learning tools to make more room for skill-building through experiential and project-centred learning.

The Summit did not suggest an education revolution; however, it did suggest that the current education system needs to adapt and evolve to enable students to gather the skills needed to be life-long learners. Much of the knowledge and information with which we will use in our lives in twenty years' time does not yet exist, so it is not possible to teach people everything they will ever need to know in thirteen years of public schooling. However, they *can* acquire the skills and confidence that will enable them to continue to learn as required throughout their life paths. Skills and confidence come from the experience and practice involved in project-centred learning. This adaptation does not require an end to lecture-based learning, but rather a search for appropriate opportunities to introduce more project-based learning and integrate content and skill learning.

**21<sup>st</sup> Century Resources:** Participants were very conscious of the resource implications of their discussions. Enhancing teaching excellence and expanding teacher tool kits with a wider variety of experiential, hands on, and project-centred options requires an investment in

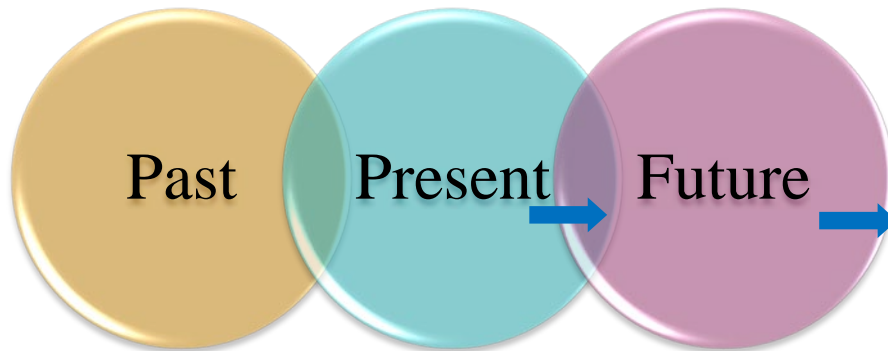
- Leadership
- Broad-based engagement
- Professional Development
- System alignment (technical, administrative and physical infrastructure) that supports greater integration of subject content and skill learning

**Action:** The overwhelming majority of Summit participants approached the challenge of 21<sup>st</sup> Century learning with optimistic anticipation. One participant noted “... *change is happening... these changes are good.*” Most people expressed a keen desire for the Minister to move beyond consultation and set change in motion suggesting that the Minister establish action working groups, and one participant wrote emphatically: *Go for it!! ACT NOW. Do something SOON!* Others expressed great interest in hearing about what will happen next.

#### NEXT STEPS: QUESTIONS FOR FUTURE CONVERSATIONS

The consistent message from participants was that they wanted to see the conversation continue. Below are some questions that can advance the conversations and the work needed to address issues identified at the Summit:

1. Summit participants agreed that education is key to PEI’s future. **What is PEI’s future’?** As Charles Fadel indicated in his presentation, PEI’s future is linked to that of the global community. Our future is founded on existing policies or strategies, as well as conversations and dialogue to come. These conversations will help people bring the conversation closer to the ground as tangible changes to the education system are considered.
2. **What is the vision for the Island’s education system?** Develop a future vision of what we, as an Island community, want for our students, how we support our teachers to achieve this, and how the Island community sustains this vision.
3. If the Island’s challenge is to re-balance curriculum and teaching methods, we need to understand **to what extent are the 21<sup>st</sup> Century skills** identified by Summit participants (see p. 13) are **being learned in the current system**, and how are they being learned?
4. **How can we encourage and support the development of 21<sup>st</sup> Century skills with the resources available?** (System infrastructure, curriculum, technology, methodology).



## INTRODUCTION: “...THE BEGINNING OF THE CONVERSATION...”

On June 4 & 5, 2010, Minister Currie, Minister of Education and Early Childhood Development convened a Summit on Learning bringing together over 250 Islanders: parents, students, leaders in the classroom and in the education system (from early childhood through to post-secondary) and in business. They were asked to consider the future landscape of learning on Prince Edward Island and to identify opportunities to support Island learners to prepare for life and work in the 21<sup>st</sup> Century. In his opening remarks, Minister Currie noted :

You have been invited here as a current leader in this province... as key partners in learning. Whether you are a student, a parent, or educator; an educational leader from post secondary, at a school board or with the Department; or from our business sector... you have an important role to play in the future learning in this province and I am very pleased to have you here for the *beginning of the conversation*.

This report of the proceedings is intended to be a marker indicating where the conversation between government and the education community was in early June 2010, and provide direction for where the conversation needs to move.

## THE AGENDA

The Minister wanted to ensure that the Summit would produce ideas, direction and commitment that met the needs of the Island community. Therefore, while the Summit engaged a keynote speaker, the organizers were careful to *first* engage participants in conversations from the Island perspective as to what skills Island students need to learn, how they should learn them, and how the Island community can support its learners. Only *after* these conversations, exploring these general themes, did the Summit then hear from the keynote speaker, Charles Fadel. This flow allowed participants to see where their interests and concerns aligned or differed from learning communities elsewhere in the world. Following the keynote presentation, the Summit returned to a workshop format, enabling participants to continue their conversations as part of the collaborative process for giving the drivers of Prince Edward Island’s future – our learners – the tools they need to build their futures in the 21<sup>st</sup> Century.

Over the course of the Summit, participants saw and heard comments gathered from student focus groups conducted in the weeks leading up to the summit, regarding their experience in the education system. During breaks and pauses in the conversation, video

clips were also shown on various means of expanding the education experience through computer and web-based tools, project-centred or project based learning and other collaborative techniques.

One of the techniques that became a discussion point at some table groups was project-centred learning or project-based learning. Project Based Learning (PBL) is an instructional approach using learning activities that engage student interest and motivation. These activities are designed to answer a question or solve a problem and generally reflect the types of learning and work people do in the everyday world outside the classroom. The term refers to a more intentional design than simply assigning a topic to students. A well-designed project challenges students with the central concepts and principles of a discipline.

PBL is intended to be used to teach skills as well as content. These skills include communication and presentation skills, organization and time management skills, research and inquiry skills, self-assessment and reflection skills, and collaboration, group participation and leadership skills.

PBL is now a touchstone in the 21st Century skills literature. It is defined by [www.pbl-online.org](http://www.pbl-online.org) as:

*A systematic teaching method that engages students in learning essential knowledge and life-enhancing skills through an extended, student-influenced inquiry process structured around complex, authentic questions and carefully designed products and tasks.*

Because the participants did not focus exclusively on PBL as a learning technique, the Proceedings will refer to project-centred learning to refer to a range of collaborative, experiential learning experiences that include project based learning, without endorsing, at this point, PBL as *the* methodology to be adopted.

---

## DAY ONE

The first day of the Summit enabled participants to discuss what skills Island students need to learn; how they will learn them; and how Islanders can work as a community to support students in achieving their full potential. The skills identified in these discussions were grouped into themes and posted on the walls in the conference room for participants to browse and reflect upon.

The conversation was then taken to a deeper level. This was accomplished through facilitated activities during which participants used an interview matrix to engage in dialogue on four key questions:

1. Why is it imperative that we have this conversation now?
2. How is education the key to PEI's future?
3. What are the critical questions in our Island school system today?
4. What influences learning in students' lives?

The results of this work were posted on flip charts around the room for participants to read and reflect upon in their work on Day Two.

---

## DAY TWO

The conversations of Day One formed the groundwork for Saturday's keynote presentation and workshop by Charles Fadel, co-author of *21<sup>st</sup> Century Skills: Learning for Life in Our Times*. Mr. Fadel is the Global lead for Education at Cisco Systems, and the Cisco board member on the Partnership for 21<sup>st</sup> Century Skills. He has worked on education projects around the world, including the countries of Brazil, Chile, the Dominican Republic, France, and in North America, including states and provinces such as Massachusetts, and New Brunswick. His keynote address, *21<sup>st</sup> Century Skills: How can you prepare students for the new Global Economy* was based on research and statistics showing how the world continues to change faster and faster: from agrarian societies to industrial to information to an emerging imagination society, there is an accelerating change in the skills needed to support the social and economic needs of our future.

He presented current findings on the impact of globalization, the science of learning, and the emerging transition from the Information Age to the Imagination Age. Equipped with this information, participants were then asked to answer three key questions in light of the needs of Prince Edward Island:

1. How would the curriculum need to be different to prepare children for their future?
2. Explore why we revert from project-centred world during early childhood to a more lecture-based approach later. What is forcing that change?
3. How might we involve the entire community, including business, in providing our children with 21<sup>st</sup> Century skills?

The participants were fully engaged in this process, and produced thoughtful and thought-provoking insights that are captured in this report. The work of the Summit participants is organized using the framework of Charles's book, *21<sup>st</sup> Century Skills* to enable the reader to see how his theory aligns with the perspectives and contributions of the participants.

At the close of the Summit, Minister Currie invited participants to tender their views as to one key piece of advice they have for him as he considers the results of the Summit. These were collected and are summarized in the final section of the report: *Where To From Here?* This closing section also includes *Questions To Be Answered* which may serve to form the basis of the agenda for the next set of conversations, because, as Minister Currie noted, "... *we all know there will be many conversations ahead...*"

### WHY IS IT IMPERATIVE THAT WE HAVE THIS CONVERSATION NOW?

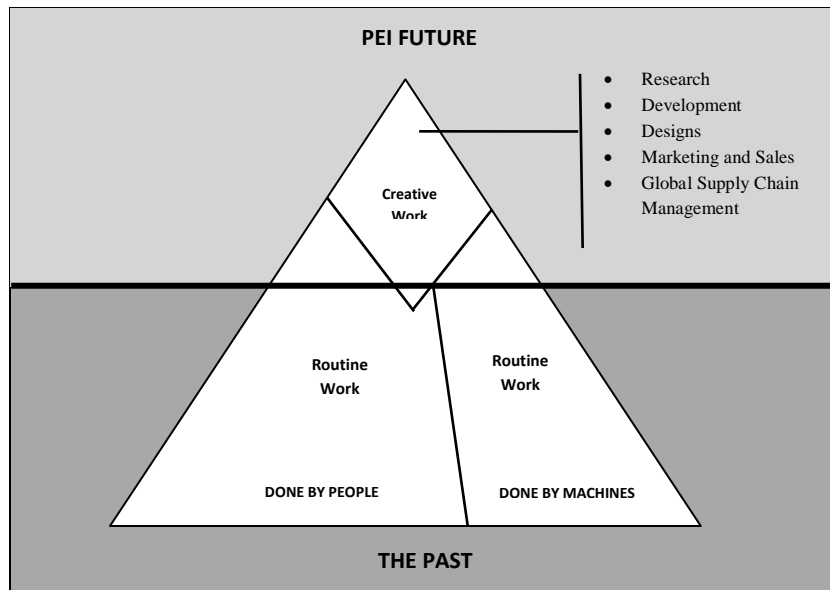
*Education is the “preeminent mechanism to profoundly improve the human condition...”<sup>1</sup>*

Our society has evolved from the industrial age where value was added to natural resources through mechanical and physical processes to the knowledge age where value is added to information to create knowledge and expertise. Indeed, Charles Fadel suggests that we are now in the midst of yet another evolution: from the Information Age into the Innovation or Imagination Age. He contends that it is no longer enough to be able to work with data to extract knowledge, we must also have a culture of creativity and innovation that can find new ways of using the overwhelming wealth of information available to us to address the great challenges and questions of our times.

This does *not* mean that primary industries or manufacturing will no longer be relevant. However, it does mean that as emerging, low-wage economies such as Brazil, India and China continue to expand their influence into these areas, the growth of such opportunities in Prince Edward Island will slow, while service-based knowledge work will continue to accelerate.

As illustrated in Figure 1 below, employment opportunities of the past were largely based on routine work, with creativity and innovation being a relatively small share of the economy. However, new knowledge and information is accelerating the speed of change, giving the competitive edge to those who are able to tap into innovative and creative new areas. The vast majority of Summit participants recognized this shift and the need for Island students to be equipped with the skills to succeed in this new environment. In a world where large populations are readily accessible to the rest of the world, and the educational level of those populations is rising, it is imperative that our own children are fully prepared to participate in the global economy, and contribute to the global society.

Figure 1: Adapted from “Tough Choices for Tough Times”, 2007<sup>2</sup>



In his book, *21<sup>st</sup> Century Skills*, Fadel noted:

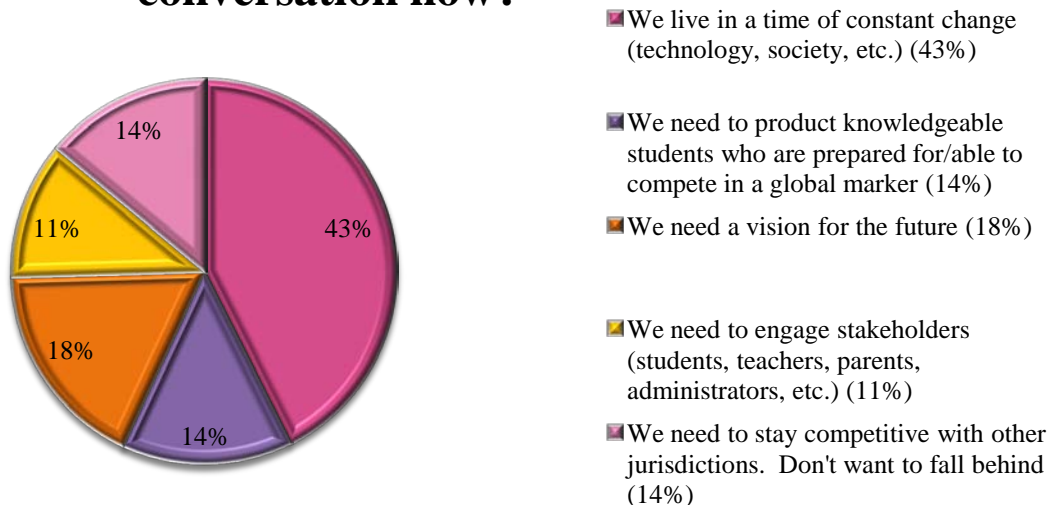
One of education’s chief roles is to prepare future workers and citizens to deal with the challenges of their times. Knowledge work – the kind of work that most people will need in the coming decades – can be done anywhere by anyone who has the expertise, a cell phone, a laptop, and an Internet connection. But to have expert knowledge workers, every country needs an education system that produces them; therefore, *education becomes the key to economic survival in the 21<sup>st</sup> century.*<sup>3</sup>

While it may be tempting to think that as a small island province, Prince Edward Island might be insulated from these global competitive factors, as the recent global recession has illustrated, the changing nature of work, and the ability for people to deliver products and services from practically any location on the planet, geographical islands no longer translate into economic islands.

United Nations projections of population and gross domestic product for the first half of this century indicate that the ‘emerging’ economies such as India and China will far outstrip that of the traditional economic engines in North America and Europe combined.<sup>4</sup> In addition to the shifting of economic power through sheer size, the nature of work and productivity is changing. The demands for analytical work (engineers) and interactive work (consultants) is accelerating, while the demand for skills in manual and routine work (such as manufacturing, and primary services) is for the most part decelerating, or leveling off at best.<sup>5</sup> Island students of today need to be ready for the analytical and interactive world of tomorrow.

Summit participants agreed. Even before Charles Fadel’s keynote presentation, the Summit participants acknowledged that the timing of the Summit was critical. In their conversations, they noted that pressures for change are building, creating an expectation and a demand for new frameworks for learning. When asked why it was important to discuss these issues *now*, participants answered, with the top five responses set out below in Chart 1:

**Chart 1: Why is it imperative that we have this conversation now?**



Clearly, the Summit participants recognized that global developments are creating pressures on the educational needs of Islanders, and that we need to ensure that our education system prepares Island learners for a rapidly changing world. Those at the Summit identified a number of pressures that demand a response from the education system:

1. Rapidly changing technology that is overtaking our ability to have a social discourse of its implications and impacts (43%);
2. Global competitiveness for students (14%) and for a vision for the Island economy (14%);
3. The need for an education system that is sustainable from both financial and human resource perspectives (18%); and
4. Adapting to shifting demographics (including declining enrolment, retiring teachers and new entrant teachers, increasing diversity of local society and increasing interaction with the diversity of the global society) (11%).

In addition to external events, Summit attendees also noted internal pressures within the education system itself, citing opportunities to improve Island student performance as measured by current indicators, and to orient learning to the future. Participants also recognized that there is an opportunity to integrate a number of Island programs and initiatives into an Island vision, with priorities and focus brought to the Island’s efforts. Comments included calls to improve the outcomes of the education system, including a need to *improve literacy and numeracy, to meet the diversity of needs* presented by Island

learners and to ensure that they are “ready to participate fully in a Global community”. They also urged that the planning for the 21<sup>st</sup> Century be treated as an on-going process rather than an event.

Participants also noted that the education system is just one of many social institutions. One table group’s discussion raised the question of whether other social institutions are also changing. While the need for change was prevalent in participant comments, the tone was positive and hopeful; there was enthusiasm in the participants’ anticipation that the Island has an opportunity to *be proactive*, for the province to leverage the opportunities offered by new technologies to capitalize on these changes. Participants recognized the wonderful opportunity afforded by the Summit to engage in a collaborative effort.

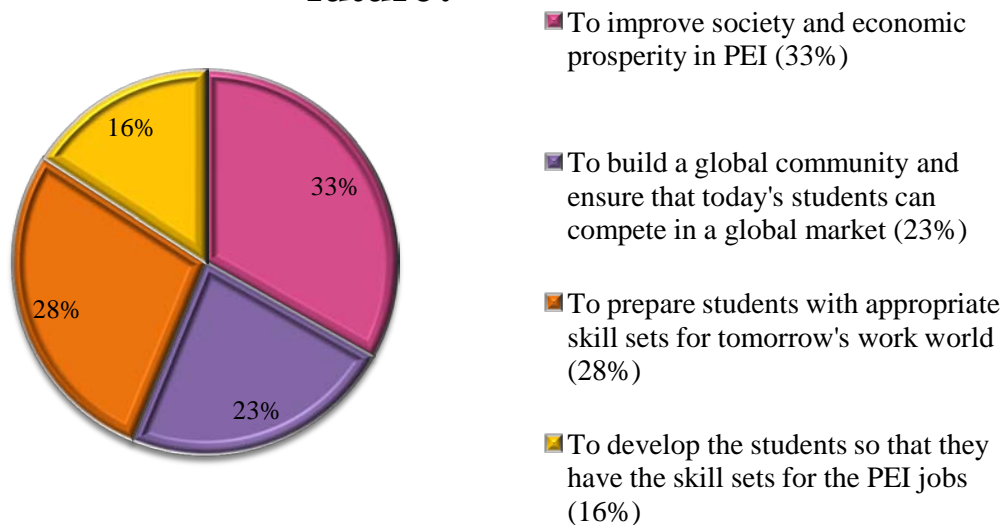
For moving this agenda forward, Summit participants had two suggestions:

- Create a vision for the system: a future vision of what we, as an Island community, want for our students, how we support our teachers to achieve this, and how the Island community sustains this vision; and,
- Develop a means of evaluating how we are preparing students, and providing a means of engaging students and giving students a voice in their education.

## HOW IS EDUCATION THE KEY TO PEI'S FUTURE?

When the question, "How is education the key to PEI's future?" was posed to those attending the Summit, participant responses aligned with four general themes:

**Chart 2: How is education the key to PEI's future?**



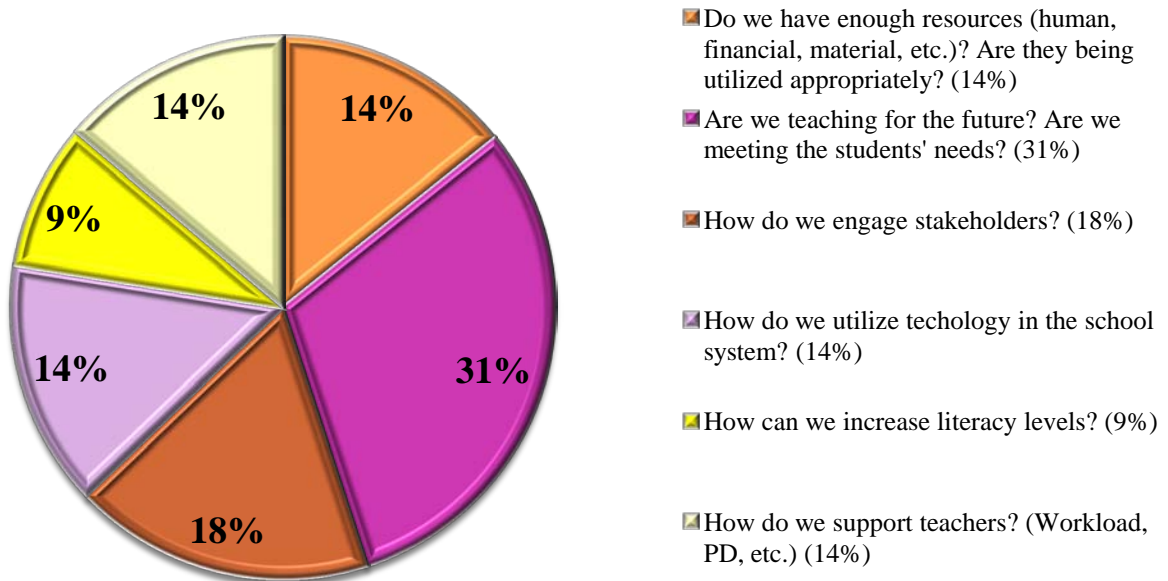
- Education improves our Island society and supports our economic prosperity (33%);
- Education empowers Islanders to participate in the global community, and ensures that Island students can compete in the global marketplace (23%);
- Education prepares students with the skills sets needed for work of the future in the world generally (28%); and,
- Education prepares students for Prince Edward Island's work of the future (16%).

This last point begs the question, *what is PEI's work of the future?* While not the focus of the Education Summit, developing a response to this will be an important step for aligning the Island's education system for the 21<sup>st</sup> Century.

## WHAT ARE THE CRITICAL QUESTIONS IN OUR ISLAND SCHOOL SYSTEM TODAY?

Those at the Summit were also invited to identify the critical questions in our Island school system. Despite having over 250 people generating these issues, they tended to align with six issues shown in Chart 3 below.

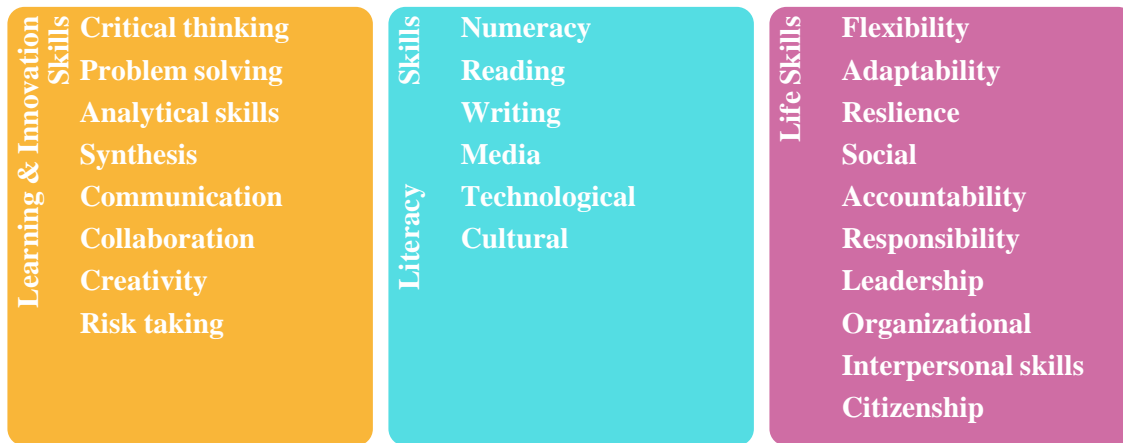
**Chart 3: What are the critical questions in our PEI School System today?**



Almost one-third of responses identified “Are we teaching for the future? Are we meeting the students’ needs?” as a critical issue. How to engage stakeholders was the next most frequently identified. Issues of resourcing, using technology and supporting teachers in their work loads and professional development were all identified at similar levels. Improving literacy levels was also identified as a critical issue. These questions need to be part of the agenda for the next steps for the next 21<sup>st</sup> Century Island conversation.

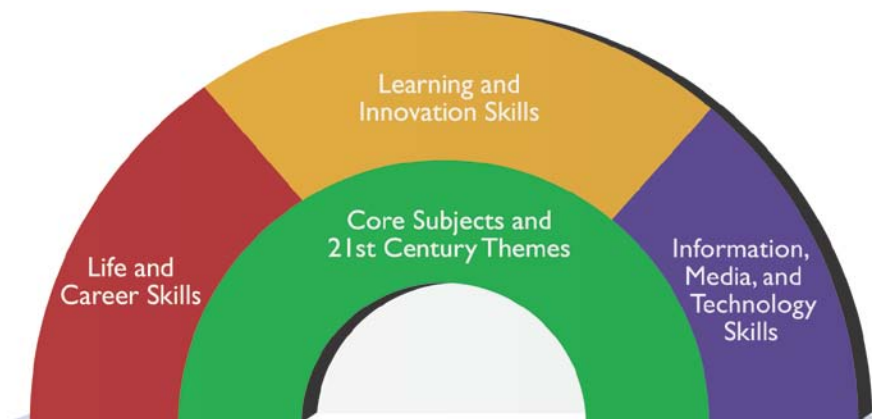
## WHAT ARE 21<sup>ST</sup> CENTURY SKILLS?

During the first day of the Summit, participants were invited to identify the skills they believed Island learners would need for the 21<sup>st</sup> Century. These skills were then grouped into 24 themes which fell into three categories: learning skills; literacy skills and life skills:



These themes were then posted around the Summit meeting room for participants to review and consider as they began their work on Day Two. Charles Fadel noted that the skills identified had strong similarities with the skills identified by other groups he has facilitated on this topic, regardless of whether in North America or in Europe. However, he did note (and applaud) the Summit participants for identifying risk taking – an element that has not been listed by other groups with whom he has worked. In his book, *21<sup>st</sup> Century Skills*, he created a framework for these skills which is set out in Figure 2 below:

**Figure 2<sup>6</sup>:**



## HOW WOULD THE LEARNING ENVIRONMENT NEED TO BE DIFFERENT TO PREPARE CHILDREN FOR THEIR FUTURE?

Once the Summit participants identified the necessary skills, they then considered what would need to be different in the learning environment. Many of their comments related to the attitude or learning culture environment rather than the physical environment:

*Enhanced Student-Centred Culture:* It is important that students learning, not teachers be the focus of the education system. The need to be student-centred was reflected in participant comments relating to ensuring students were appropriately placed, with appropriate class composition to support more project-based learning. An education system that uses a variety of forms of delivery demonstrate that student needs are at the centre of decision-making ;

*Creative Curriculum Delivery:* Increasing opportunities for project-centred or experiential learning will require a more flexible curriculum and high quality teaching that will allow teachers and students to achieve desired outcomes in a variety of creative ways;

*Support of project-based learning in the teaching tool kit:* Re-balancing the emphasis that currently focuses heavily on knowledge content (particularly in the higher grades) to a balance that focuses more evenly on both knowledge *and* skills. Used in concert with other teaching models, project-centred learning can be an example of this balance through a learning experience that not only provides hands-on, real world opportunities to learn content, delves deeply into a topic of great interest to students, but that also teaches key collaborative and other 21st Century skills necessary for the knowledge and innovation economies.

*Teacher engagement:* Project-based learning can be implemented in the current curriculum, but will require collaborative, interdisciplinary planning and the utilization of creative, evidence-based teaching strategies. Project-based learning pilots have been used in some schools, illustrating the time investment required by teachers to develop meaningful and engaging projects that empower students to pursue their interests while developing knowledge and skills in authentic environments. Departmental, school, and community support for project-based learning will be important. Furthermore, peer-to-peer sharing of success stories was seen as a means of encouraging teacher buy-in.

*Heightened Civility:* With greater latitude to organize their learning students and teachers must intentionally nurture mutual civility, self-regulation, respect, and other 21st century life and career skills so that energy in the classroom is directed to learning, inquiry, and exploration.

*Supportive physical infrastructure:* While the physical environment did not receive as many comments as the learning culture or attitude environment issues, participants noted that collaborative and project-based learning requires flexible space, furniture that is comfortable and able to be rearranged to accommodate different sized groups undertaking a variety of tasks, from reading, writing, meeting, surfing the net, constructing models, experimenting. Learning groups will need sufficient space to avoid disturbing other groups who are also working.

## HOW WOULD THE CURRICULUM NEED TO BE DIFFERENT TO PREPARE CHILDREN FOR THEIR FUTURE?

The theme of Mr. Fadel’s presentation was the need for relevance to 21<sup>st</sup> Century learners. His presentation illustrated the linkage between what learners are learning and economic performance, particularly emphasizing the value of the Science, Technical, Engineering and Math (STEM) subjects. One example was a study showing that economies that have a higher concentration of engineering college majors grow faster than countries with a higher proportion of law majors.<sup>7</sup>

While Fadel noted the value of the STEM subjects generally, his main point was that it is essential that the curriculum emphasize learning that has broad application and relevance to all learners. For example, while statistics and probabilities has very broad application across a wide range of applications in the arts, humanities and sciences, it gets much less attention in math curriculum than linear algebra which has a more limited application. Fadel suggested that this balance might be re-visited; the curriculum for 21<sup>st</sup> Century skills requires relevance as the touchstone for curriculum design.

Mr. Fadel was unapologetic for his emphasis on STEM studies, yet he did *not* advocate that these be the *only* subjects valued. Instead, he wished to show the value of encouraging studies in these areas, to share data, and to propose a re-balancing of the curriculum to equip students with the tools for the 21<sup>st</sup> Century. Some participants were uncomfortable with this emphasis on STEM studies, noting that many of the 21<sup>st</sup> Century skills reflect the communication and analytical skills that are promoted in the arts. One suggestion was for the Department of Education and Early Childhood Education to explore adding A for the Arts to create a conversation around the STEAM subjects.

Summit participants were asked what they thought needed to be different they identified numerous opportunities to realign the school curriculum in support of learning the skills they had identified. Most of the top priorities of the Summit participants echoed student observations gathered during the pre-Summit student consultations:

| Summit Responses  | Student Focus Group Responses  |
|---|--|
| Increase the opportunities for project-centred, hands-on, experiential, integrated learning | <i>Let us use our hands to learn</i>   |
| With relevant and real-world projects   | <i>Don't make us take pointless subjects or learn pointless topics in subjects</i>   |
| Student-centred delivery  | <i>Allow us to pick courses that apply to our lives and that will help us to achieve our life goals</i>  |
| Recognize diversity of students needs and learning styles                                   | <i>Add more global content in all courses</i>  |
| A new model of assessing learning success   | <i>Let us show you what we know in other ways</i>  |
| Strengthen links with community   | <i>Make links with class work and the real world and career options</i>  |
| Technology is an enabler, not an end in itself  | <i>Technology is a major factor in improving school life. Technology is so advanced now and we should be given the chance to use it to our advantage</i> |

Summit participants also noted that such adjustments in the education curriculum would require increased support to teachers to develop and enhance teaching methods and strategies, and a focus on quality skills rather than quantity of knowledge by reducing others suggested a reduction in the number of outcomes in content subjects.

The discussions also highlighted a number of other key issues to be addressed:

- The need for flexibility in the system to empower creativity
- A role change for teachers, from being the sources of knowledge to the facilitators of learning;
- The need to support teachers in learning and adopting new roles;
- The need to keep the Island context in view;
- The need to invest time for preparation, for learning for teachers and students

Participants noted that the Island's education system is not 'broken'; in fact, many of these ideas are already in use in some classrooms. However, more can be done. It was noted that what is needed is evolutionary not revolutionary.

## HOW WILL ISLAND STUDENTS LEARN 21<sup>ST</sup> CENTURY SKILLS?

Participants acknowledged that learning is a skill in itself. Therefore, *how* people learn needs to be considered as well as the content of *what* they learn. This has an impact on how learning success is defined and assessed, particularly with respect to the learning and innovation skills of critical thinking/problem solving, creativity and innovation, and communication.

There was strong support among Summit participants for increasing the experiential, hands-on, or project-based learning opportunities for students across grade levels. It was noted that this is about balance: students who learn better, and who prefer to learn in lecture-based or solo work need to also be accommodated in the new balance. However, all students need to develop 21<sup>st</sup> Century skills for working as analytical and interactive citizens.

*The setting in which a new skill or piece of knowledge is learned strongly influences whether or not that skill or knowledge can be applied elsewhere.<sup>8</sup>*

Summit participants identified a wide variety of skills needed by Island learners for the 21<sup>st</sup> Century. The science of learning is informing the discussion of education design, and identifying the value of project-based learning, as well as opportunities to see and experience the application of learnings in real-life settings. This observation supports the Island's recently renewed cooperative education program, community volunteering and various other career exploration activities that exposes students to experiencing their learning in authentic community environments with community mentors, and suggests that further opportunities to connect learning in school with learning in the real world need to be explored.

*Studies of well-designed learning projects geared to student interests and passions also show that internal motivation can contribute a great deal to active engagement, deeper understanding, and a desire to learn more.<sup>9</sup>*

Providing students with the opportunity to design and develop projects of interest to them is a means of tapping into their internal motivations. It was noted that the way students learn is as important as what they learn: *“If one of the desired outcomes of the education system is the ability to function in the adult world, then surely learning to work together as adults do is a valuable end.”*

*Learning in a community of learners who share knowledge, questions, skills, progress, and passion for a subject is exactly how adults learn when they participate in their communities of work and professional practice.<sup>10</sup>*

The 21<sup>st</sup> Century learning methodologies include collaborative, interdisciplinary work; skills-based learning; self-directed learning; self-assessment; and, technological literacy.

## EXPLORE WHY WE REVERT FROM PROJECT-CENTRED LEARNING DURING EARLY CHILDHOOD TO A MORE LECTURE-BASED TEACHING STYLE IN LATER GRADES; WHAT IS FORCING THAT CHANGE?

While Summit participants generally acknowledged the advantages and benefits of project-centred learning, it was observed that lecture-based learning increased significantly as students progressed through the grade levels. This is unfortunate given that it is in the more senior grade levels that student appreciation of topic relevance and student engagement become more challenging. The participants took some time to explore why project-based learning is not used more in the senior grades.

One table group described the shift as a move from “teaching children” to “teaching subjects”. This is due, in part, to a change in the structure of teaching delivery: once out of elementary school, students have multiple teachers, rather than a single teacher covering multiple topics. However, the scheduling structure is not the only reason for this shift. Some subject-teachers utilize project-based learning for some aspects of their courses; why is this not a practice with all teachers, across all subjects and grade levels?

---

*There are outmoded notions of what knowledge is and how it's acquired*

Summit participants identified several pressures that tend to decrease project-centred learning as students move through the senior grades:

1. The traditional assessment tools test for content:
  - a. Post-secondary institutions seek assurances that students are prepared;
  - b. It is easier to assess;
  - c. Marks determine the distribution of post-secondary opportunities ;
  - d. Students and parents want means of measuring success;
  - e. Higher grades place emphasis on assessment for knowledge, not skills;
2. The value of competition *versus* collaboration: top marks, best grades, still important in society;
3. The large numbers of curriculum outcomes of the current education system;
4. The education system is focused on individual accomplishment, which is more challenging to assess in group/collaborative work;
5. The traditional education has focused on ‘academic’ students, or those who do well in lecture-based formats;
6. The *perception* that lecture-based teaching is an effective and efficient means of covering the curriculum content, particularly specialized knowledge;
7. The school environment (physical, time table, and curriculum) makes project-centred work more challenging:
  - a. Project-centred work requires more space and flexible space;
  - b. Project-centred learning takes more time;
  - c. Time tables inhibit group work;

- d. Equity of access to resources –students who do well with projects often have access to additional resources and support from family<sup>1</sup>
- e. We teach the way we were taught... not the way we were taught to teach.

To have more project-centred opportunities in the learning environment, teachers will require professional development opportunities to design projects, and to teach students the skills needed to collaborate effectively.

Teachers are already engaged in the process of trying to add more experiential and community-based opportunities to their learning. Time, resources, and professional development are needed to support these efforts.

---

*There is a pernicious downward push of university influence*

While not frequently raised, it was noted that lecture-based teaching is also seen as a means of ensuring students are getting exposure to necessary information. As students become more independent in their learning activities, it can be challenging for teachers to ensure that students are indeed engaged in productive and relevant learning. Methods for assessing learning tend to be content-based, rather than skills-focused; teachers need opportunities to learn and develop new methodologies for measuring success in new learning modes.

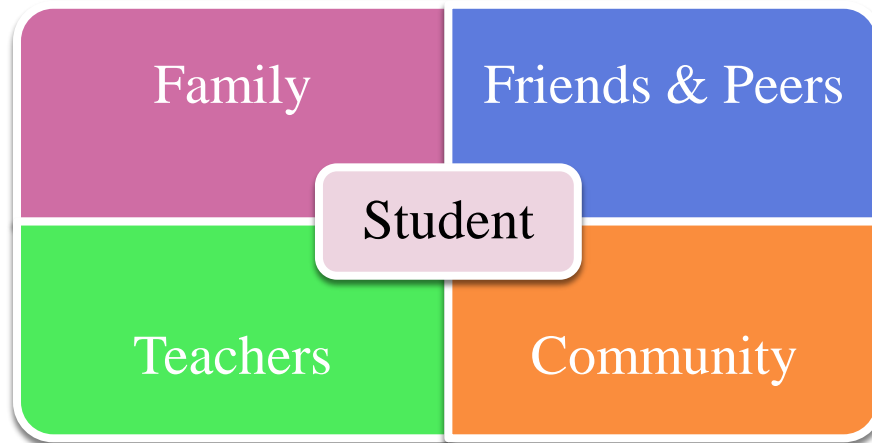
Assessment and evaluation of learning is not only driven by teachers, students and parents, it is also driven by post-secondary institutions that use grades and marks as a means for determining eligibility for courses and programs, and also for determining how to apportion scholarship and bursary support. Therefore, this issue is key for collaborating with post-secondary partners as learning modes evolve.

---

<sup>1</sup> This statement highlights a misunderstanding of the PBL as opposed to traditional project assignments. PBL provides students with the complete TOOLS and OPPORTNITIES which they require to engage in inquiry and design in messy, authentic, real-world environments with experienced mentors. Resources and time are built into the PBL experience.

## WHAT INFLUENCES LEARNING IN STUDENTS' LIVES?

While much of the discussion at the Summit focused on the curriculum and teaching models used, participants also took time to discuss what other factors influence Island learners. Surprisingly, Summit participants did not identify socio-economic factors as the priority issues. Instead, their conversations highlighted *people*. This was a tacit acknowledgement that learning occurs in relationship to others.



*The Student:* In a student-centred education system, the student's motivations, interests and learning styles are key in determining *what* and *how* they learn. Providing a safe, caring environment for learning, recognizing that learners learn and demonstrate that learning differently, and giving learners the opportunity to experience challenge will optimize the student's experience.

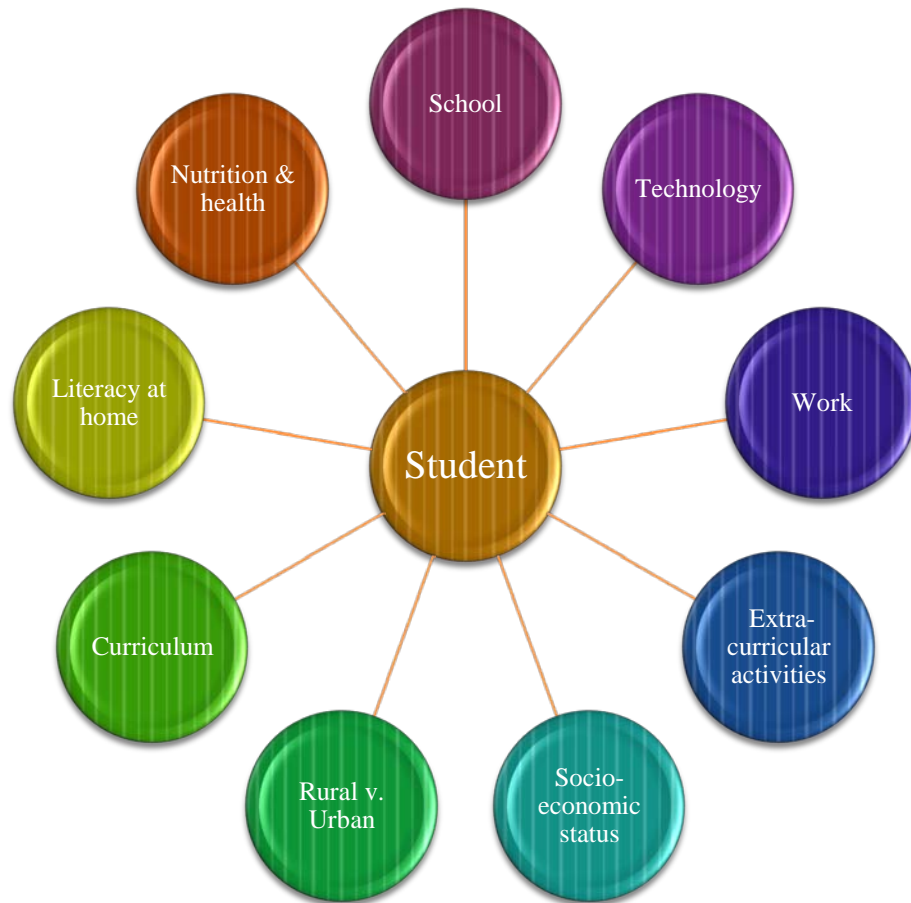
*The Family:* Providing a loving home life where a child's physical, mental and emotional wellbeing are nurtured is an incredibly important contribution to the student's success. Furthermore, the family's appreciation of the value of learning and their support to their children has an impact throughout the learner's life. Family members are a child's first teachers and role models. A child learns much before they enter the doors of an early learning centre or a school.

*The Friends & Peers:* While not discussed in detail, it was generally acknowledged that the values and attitudes toward learning adopted by friends and peers can have a significant influence on a student's own motivation to learn.

*Teachers:* Teachers are crucial. Not only do they need to be highly trained in the content and pedagogical principles of teaching, they also need exceptional 21<sup>st</sup> Century skills, themselves. Most learning happens in relationship to others. The relationship between students and their teachers has a significant impact on the student's motivation to learn.

*Community:* The general attitudes of the community toward learning, as expressed by friends, peers, neighbours, community leaders, and the media influence what is taught, the resources devoted to learning, and the value placed on learning by society. The 21<sup>st</sup> Century learning model will benefit from mentors from the community who will work with students to achieve specific knowledge and skill goals, as mutually determined by the team of students, teacher, and the community mentor.

In addition to the people that influence learning, the participants also identified other factors that influence learning:



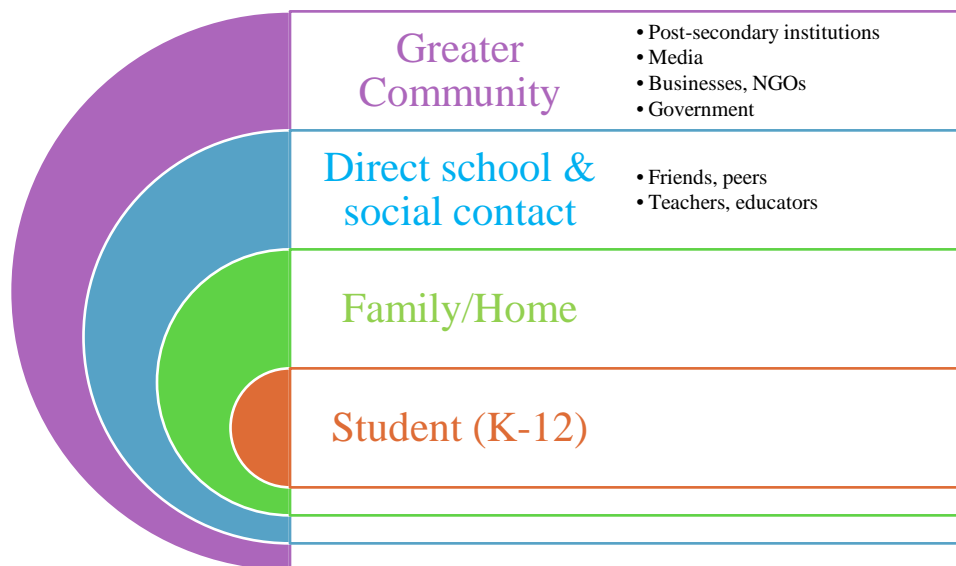
This conversation was valuable in expressing the variety of factors that influence learning, and reminding Summit participants and leaders that there are many people and partners involved in helping Island learners prepare for the 21<sup>st</sup> Century, and there are many factors beyond the control of the education system that influence learning success.

## 21<sup>ST</sup> CENTURY LEARNING IN PRACTICE

Given the number of influences identified, Summit participants were asked to consider what other activities need to be explored to move the discussion from the education system-centric discussion of curriculum to the larger community by addressing the question:

HOW MIGHT WE INVOLVE THE ENTIRE COMMUNITY IN PROVIDING OUR CHILDREN WITH 21<sup>ST</sup> CENTURY SKILLS?

Summit participants generated a wide variety of ideas for involving the community in the education of Island learners. Most suggestions could be grouped according to the segment of the learning community targeted.



*Greater Community:* In order to engage public interest in these issues, participants identified the need to educate people regarding the information shared at the Summit. Participants noted that the information shared, and the discussions held during the Summit are of broader interest to the Island community and need to be shared further: Provide all the video clips shown at the Summit to parent groups to spur discussion;

- Participate in career days, and offer internships;
- Consult with business to find out what they won't need from their future workers;
- Have real world models, such as a small business in school with mentoring from business community members;
- Get students out into the community in small amounts of time. Doesn't have to be a whole semester or even weeks – can be a half day per week and can be at several different places per year;
- Organizations, and community members volunteer to work to schools;
- Challenge students with real life issues; and,
- Engage the media as partners.

*Schools:* Participants recognized schools as important institutions with a strong tradition of community involvement. This needs to be supported and nurtured. Their suggestions included both inviting the community into the schools, and getting students out into the community:

1. Create more welcoming schools
  - Offer some form of self governance of students in school
  - Provide extension activities (enrichment)
  - Support field trips, including exposure to the arts and music

*Family & Home:* The learners' home environment is their most immediate and intimate community. Parental involvement is needed for maximum impact of any re-alignment of the education system. Participants made the following suggestions:

- Focus on learning has to include parents
- Get parents to respond to the direction of this Summit, make sure they are engaged and heard
- Encourage meaningful parent involvement (including volunteering in the senior grades)

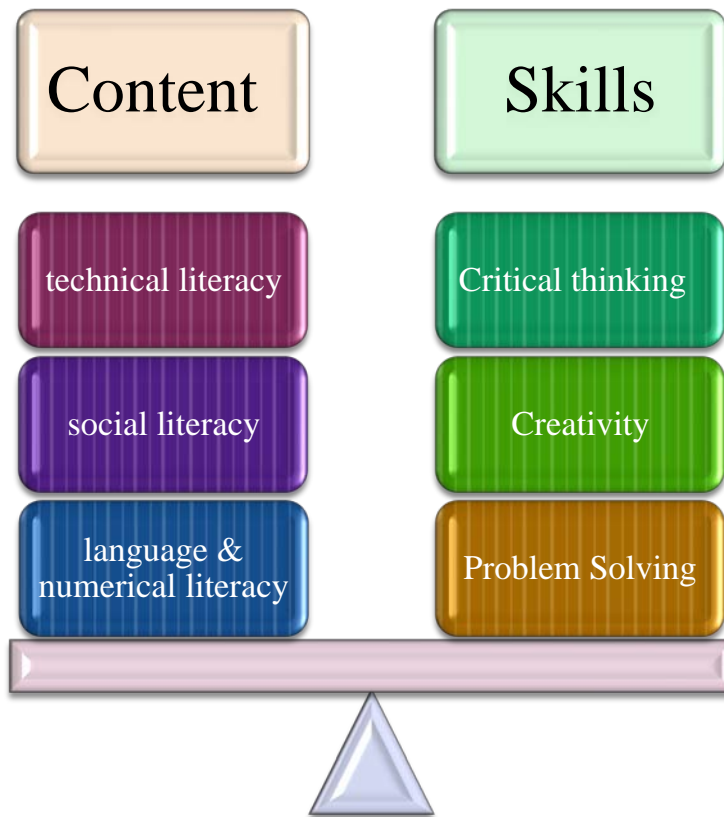
The overarching message from this portion of the Summit was the need to have an on-going dialogue between students, parents, and the community with educators. In addition to this high-level advice, participants were invited to provide “advice to the Minister” (Appendix 1); they also identified specific activities for the Department’s consideration (Appendix 2).

## BUILDING UP A HEAD OF S\*T\*E\*A\*M

*... it is widely understood that content knowledge and skills always work together – that is, you can't think critically or communicate about nothing!<sup>11</sup>*

In his concluding remarks, Charles Fadel responded to concerns expressed by a participant that we must not forget about the fundamental building blocks of knowledge. Dr. Fadel's rebuttal was that 21<sup>st</sup> Century skills needed to be integrated into the curriculum, not to replace the curriculum. As he explained, the 21<sup>st</sup> Century skills proposition is not an attempt to force a choice of 'Either / Or', but rather acknowledges the importance of knowledge **'And'** skills.

The challenge for the next conversation is to apply the test of relevance to the balance between content **AND** skills; project-centred learning **AND** lecture-based learning; science, technology, maths **AND** arts and humanities.



The Summit created a positive dynamic for an inclusive, continuing dialogue. Participants clearly supported the search for a new balance **AND** they want to continue this dialogue as the Province brings the skills needed for the 21<sup>st</sup> Century into focus – one that embraces the importance of the STEM subjects **AND** the Arts.

## CONTINUING THE CONVERSATION: NEXT STEPS

*This has been a wonderful opportunity and should be repeated – more focus groups for students and parents and community – many great, purposeful conversations.*

*Summit Participant*

The Summit was an extremely positive event, giving participants an opportunity to learn of interesting trends on the world stage that affect Prince Edward Island, and have conversations, share and debate ideas. While the group was not unanimous in all their views, discussions were productive. At the end of the session there was an eagerness to see what will happen next. Most participants were enthusiastic and eager to see changes being introduced into the classroom; however, the precise nature of the changes needed or desired were not the focus of the Summit's discussion. Clearly, the conversation needs to continue. There are five opportunities to keep the conversation moving forward:<sup>2</sup>

- **Broaden the base of support:** while the vast majority of participants agreed that Prince Edward Island learners need to be prepared to compete in a global community, some individuals were not convinced of this assertion.
  - The Summit involved a small cross-section of people involved and interested in the Island's education system. The information and knowledge shared needs to reach a much larger audience.
    - Establishing an advisory group of education leaders, business and community leaders, parents and students to fine tune the vision for 21<sup>st</sup> Century learning in Prince Edward Island.
    - Create and distribute information campaigns and packages on 21<sup>st</sup> Century skills designed for target groups: education leaders, parents, students, business and community leaders, and the general public.
    - Use the clips shown at the Summit (prepared in Prince Edward Island and New Brunswick) to inform the public of some of the issues and possibilities.
- **Prioritize** skills to be developed through core subjects and themes
  - The skills list identified during the Summit needs to be refined and focused for prioritization.
  - Set realistic goals and start with the highest priority needs.
  - In identifying priorities, recognize that critical thinking and problem solving are fundamental to all other 21<sup>st</sup> Century skills
- **Assess the Current Status:** utilize an advisory group in assessing the extent of integration of the 21<sup>st</sup> Century priorities in Island classrooms

---

<sup>2</sup> *The MILE Guide: Milestones for Improving Learning & Education, Partnership for 21<sup>st</sup> Century Skills, 2009*

- **Develop Implementation Plans** using the priorities and assessment of current status that identify clear action steps for
  - School leadership,
  - Professional development,
  - Curriculum adaptation,
  - Instructional practice,
  - Assessments,
  - Learning environments,
  - Partnerships, and
  - Continuous improvement.
  
- **Build in collaboration** between educators, parents, students, community and business leaders. The more people engaged in the process, the greater the momentum to making change happen.

#### AGENDA FOR THE NEXT CONVERSATION(S)

The consistent message from participants was that they wanted to see the conversation continue. Below are some questions that can advance the conversations and the work needed to address issues identified at the Summit:

1. Summit participants agreed that education is key to PEI's future. **What is PEI's future'?** As Charles Fadel indicated in his presentation, PEI's future is linked to that of the global community. Our future is founded on existing policies or strategies, as well as conversations and dialogue to come. These conversations will help people bring the conversation closer to the ground as tangible changes to the education system are considered.
  
2. **What is the vision for the Island's education system?** Develop a future vision of what we, as an Island community, want for our students, how we support our teachers to achieve this, and how the Island community sustains this vision.
  
3. If the Island's challenge is to re-balance curriculum and teaching methods, we need to understand **to what extent are the 21<sup>st</sup> Century skills** identified by Summit participants (see p. ??) are **being learned in the current system**, and how are they being learned?
  
4. **How can we encourage and support the development of 21<sup>st</sup> Century skills with the resources available?** (System infrastructure, curriculum, technology, methodology) . This conversation will drive the development of implementation plans.

## APPENDIX 1: SUMMIT ADVICE TO THE MINISTER

*We need a clearly articulated set of goals and objectives which includes an action plan, timelines, and deliverables. Put someone in charge of this*

*Summit Participant*

The two day Summit covered a wide range of issues, and elicited a number of ideas and suggestions for consideration. (Direct quotes are noted in green font).

The overwhelming majority of Summit participants approached the challenge of 21<sup>st</sup> Century learning with **optimistic anticipation**. *“... change is happening... these changes are good.”*

It was noted that responding to these changes takes **resources**: *Please leverage your budget to be able to implement all of these great ideas! Especially for technology and support for the teachers.*

Most of all there was a keen desire for the Minister to move beyond consultation and **set change in motion**: *Choose a direction based on our kids (such as increasing project-based learning); develop it; provide ongoing support to teachers to implement; and make everyone accountable.*

- *Commit to move –keep moving—on this quickly*
- *Action working groups to action in the short term and long term*
- *Let us know “what next” fairly soon 😊 We want to hear about/hear from you soon!*
- *Go for it!! ACT NOW. Do something SOON*

Many participants wanted to ensure that the **student-centred** theme was not lost in the discussion, reminding participants that the system must respect the whole individual, respecting gender, language, culture and abilities. There was also a call for the 21<sup>st</sup> Century theme to be carried across departments in support of the health and well-being of students in support of their optimal learning. *Be fearless, do it for the kids and be sure it is actually for the kids*

The need for **leadership** development and support throughout the education system was recognized. One participant recommended that the Minister *surround himself with great people...*

In reviewing the themes from the Summit as a whole, there are seven recurrent responses to note:

- **The conversation needs to go even broader.** *The general population doesn't have this knowledge – make those links explicit to garner support; Communication to/with the community through this process of change is essential;*
- **The extent of change needed is still up for debate;** some participants preferred an evolutionary approach while others wanted to be more revolutionary in responding to the issues discussed;
- **Educators need direction, support and resources** to explore means of increasing the experiential, hands-on, or project-based and independent learning opportunities for students across grade levels;
- Relevance of learning can best be illustrated through **continuing support and enhancement of existing cooperative education programs, community volunteering and various other career exploration activities** that expose students to experiencing their learning at work;
- Responding to the learning needs of the 21<sup>st</sup> Century requires **an extension of this conversation to larger groups of educators** (including post secondary institutions), as well as students, families and the greater community;
- The **foundational skills** for learning require continuing support and encouragement to improve Island literacy and numeracy levels; and,
- **Continue the conversation** for the 21<sup>st</sup> Century as an on-going process rather than an event.

## APPENDIX 2 – SPECIFIC SUGGESTIONS FOR CONSIDERATION (NOT NECESSARILY CONSENSUS-BASED)

While the Summit organizers endeavoured to streamline the ideas, suggestions and advice to the Minister by having participants work in groups to identify consensus-based responses, and top priorities, many participants had ideas they wished to share for further consideration. They are summarized below:

- School schedules attracted conflicting views. Some participants suggested offering more choices (increasing from 8 to 12 courses per year. Some participants noted that the school day should be expanded beyond the 9-3 schedule; others countered that this would have an impact on financial resources.
- Some suggested a focus on fewer learning outcomes.
- Create a registry of community knowledge and skills experts who can support project learning and service learning opportunities. For example, a registry for ArtSmart folks in community who could be resources. It was noted that this requires co-ordination.
- Develop partnerships with Sector Councils
  - Help prepare students for the realities of the working world by promoting more co-op education and on-the-job training as well as take your child to work day. Certain skills can only be required by working in the actual environment.
    - Sharing – co-learning-collaborating students projects with community members, and vice versa –having business/communities help them with their projects/interests
    - Mentoring/coaching models – welcome students in /pairing with businesses “job shadowing
    - Develop education (school, college, and university) projects (with common basic skills/knowledge required) in conjunction with community/business that students bring relevant results back to the company – or do it within the company.
    -
- Include service learning (students work in communities, instead of businesses going to school) in the curriculum. This is already present in the International Baccalaureate program.
- All departments /boards/other organizations need to be student focused (on the same page)
- Grow the literacy mentor model to expand it throughout all grade levels. Use this collaborative approach to capitalize upon these master teachers’ knowledge and skills so that we can implement curriculum in a more effective manner so that all students benefit.

- Involve practitioners and business people in curriculum development. (accountants making the accounting class)
- Introduce entrepreneurship programs and career exploration courses earlier (gr 10)
- Explore increasing the flexibility of the school year/day
- Encourage exchange program
- Increase the availability of technology in the schools as a means of enabling links to the greater community, as well as the global community via Skype, video conference
- Support development of 21<sup>st</sup> Century skills – 21<sup>st</sup> Century themes
- Supporting the health and wellbeing of students – which supports academic achievement
- Locate community services located within schools
- Appoint teams to compile and investigate tools, materials and programs that are already being used for 21<sup>st</sup> Century learning, as well as understanding the resources and community linkages available locally (why not make this a project for students? It would help them build networks within the community for themselves as well as for the school system)
- Project-based learning ideas suggested included stock market projects; community projects; money management projects that are referred to throughout the year in a math class.
- An electronic, wireless platform for each child; a learning device for textbooks, word processing, search intranet (research); a laptop or electronic tablet like IPAD
- Student from Three Oaks:
  - Make cafeteria use local, healthy food at a cheaper price
  - Offer more languages in addition to English and French
  - Give us (all of us) a forum to voice our concerns and opinions and let us have better involvement
- Get ITSS involved in the discussion around our needs and vision of technology in the future for our schools (multimedia, connectivity)
- The vision could be Education Management
  - Using the School Development Model:

- Make 3 quantifiable Smart Goals that you can measure over time.
- Change the P.D. model for teachers.
- Some of these thoughts and recommendations were kicked around several years ago – no action. Take action – make it happen.
- Incorporate Career Cruising Network --- will open up all kinds of community-based learning at all grade levels.
- Need collaboration across various departments to help all students experience success. Justice, social services, health care, education (co-ordinate resources).

## ENDNOTES

<sup>1</sup> Bernie Trilling and Charles Fadel, *21<sup>st</sup> Century Skills: Learning for Life in our Times*, Josey-Bass, 2009, p. xvii

<sup>2</sup> National center on education and the economy, used by Trilling & Fadel, p. 10 and further adapted by PEI Education Summit 2010

<sup>3</sup> Trilling Fadel, *op. cit.*, p. 6

<sup>4</sup> United Nations World Population Prospects: The 2004 Revision; Goldman Sachs: Global Economics Paper No. 99, 2003, as quoted by Charles Fadel in powerpoint presentation, June 2010

<sup>5</sup> Economy-wide Measures of Routine and Nonroutine Task Input, 1960-2002, updated from *The Skill Content of Recent Technological Change: An Empirical Exploration*, NBER Working Paper 8337, Boston, MA, National Bureau of Economic Research, as quoted by Charles Fadel in powerpoint presentation, June 2010

<sup>6</sup> Trilling and Fadel, *op. cit.*, p. 75

<sup>7</sup> Murphy, Schleiffer et al, *Allocation of Talent, Implications for growth*, 1990 National Bureau of Economic Research, as quoted by Charles Fadel in powerpoint presentation June 2010

<sup>8</sup> Tilling and Fadel, *op. cit.*, p. 31

<sup>9</sup> Trilling and Fadel, *op. cit.*, p. 33

<sup>10</sup> Trilling and Fadel, *op. cit.*, p. 34

<sup>11</sup> Trilling and Fadel, *op. cit.*, p. 36