Youth and Digital Skills Symposium:
Preparing young Canadians to make social, economic and cultural contributions

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Prepared by:

Information and Communications Technology Council (ICTC) and MediaSmarts

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CONTEXT

Digital technologies are quickly shaping all aspects of our lives with implications for productivity and innovation in a global marketplace and more broadly in society. To explore the critical issue of promoting the importance of essential digital literacy and skills for Canadian youth, a one-day invitation-only Symposium was organized by the Information and Communications Technology Council (ictc-ctic.ca) and MediaSmarts (mediasmarts.ca) in Ottawa on February 10, 2014.

The goal of the Symposium was to advance the cause of digital literacy skills development for youth, specifically those that contribute to economic prosperity and healthy citizen engagement, with leaders in industry and government, and to explore practical policies, programs and partnerships to advance this objective.

The event gathered approximately 75 prominent academics, industry executives, policymakers, educators, librarians, community leaders and students for an exploration of the challenges we face in helping youth acquire the increasingly sophisticated fundamental skills they need to participate fully in digital society and the workplace.

The day included keynote addresses, panel discussions and breakout sessions. Keynote speakers were the Honourable Jason Kenney, Minister of Employment and Social Development, Dr. Elyse Eidman-Adahl, Professor at the University of California (Berkeley), Andrew Wyckoff, Director of the OECD's Directorate for Science, Technology and Industry, and Andrew Parkin, Director General of the Council of Ministers of Education, Canada. Their comments served as an invaluable source of quantitative evidence and inspiration for discussion. (The presentations are available on the Symposium's web site at: http://www.ictc-ctic.ca/?p=19601.) Afternoon breakout sessions allowed participants to digest what they had heard and engage in a robust dialogue in response to a list of thought-provoking questions.

Prior to the Symposium a framing document which laid the groundwork for the day was made available (English here and French here). The following summary document encapsulates "what we heard". It frames the challenges and opportunities and suggests ways forward as captured by the organizers. It is our hope that this summary will serve to stimulate further discussion and provide a yardstick by which we may measure progress towards achieving a digitally literate Canadian population in the future.

CHALLENGES AND OPPORTUNITIES

ICT is Ubiquitous

Information and communications technologies (ICTs) and digital media are everywhere and are increasingly woven into our daily lives. We rely on technology for business, in our personal and our civic lives and for entertainment. ICTs have had major impacts on employment, education, government, public administration, commerce, healthcare, entertainment and many more areas.

Symposium participants were generally in agreement that the internet and related ICTs have ushered in a transformative period in our world history. The impact cannot be underestimated; as one participant noted, we are at the 'dawn' of a new beginning.

With respect to Canada, we are fortunate to have the infrastructure which can provide a majority of citizens with good broadband access to the internet. ICTs and the internet are transforming employment for Canadians as we produce new technologically advanced products and services. For example, the automotive industry is embedding increasing amounts of technology into cars and trucks to the point that cars can now park unassisted and some are capable of steering themselves with little human assistance. Jobs are changing as technology is introduced into the workplace and more and more workers are internet connected. For example, health technicians have more machines performing diagnostics, U.S. stocks are now being traded by computer programs and farmers have tractors with internet connected computers onboard. These transformations are increasing productivity while putting pressure on all employees to increase their level of digital literacy.

In a growing global economy Canada must be able to compete. Digital occupational skills are critical, whether to work as an ICT practitioner, or to use ICTs to help enterprises innovate and enhance productivity leveraging technology. A driving force and enabler of the global economy are ICTs, and the ability to use and produce digital products and services is critical to creating a competitive edge. Educating youth today will create benefits tomorrow as these individuals transition to the workforce.

In our personal and civic lives, digital is the new reality. We live with a growing array of portable tools that allow mobile connectivity and ubiquitous access, and point-to-point/person-to-person connectivity. Old media models are changing and new ones are either replacing or complementing existing broadcasting and print media channels.

The 'digital divide' describes a situation where some people have better access to ICTs than others. Reducing this divide is an ongoing challenge that has implications on social cohesion. Within Canada there is a divide between rural and urban areas with respect to accessing broadband, making it difficult for teachers in more remote communities to integrate technology into their classrooms. Additionally there are concerns regarding access within marginalized diverse communities and vulnerable youth. Poverty is another key issue with respect to the digital divide: our education systems often assume that homes have access to technology and digital tools and that parents have the skills to teach their children to use them. With higher income families, children may have many opportunities to access technology, however financially challenged parents may be unable to these tools, which can impact their ability to assist their children in learning digital skills.

Some say it is not so much a digital divide as an education divide, suggesting that access to connectivity and tools alone is not sufficient to provide the wide range of skills we need, including accessing online information, creative expression, information management, etc.

Definitions

While participants chose to not focus on the question of defining digital literacy, the topic was inevitably raised. What do we really mean when we say digital literacy and skills? There are multiple types of "literacies" and while common definitions can bring clarity, developing them can be a challenge.

There is a sense that definitions and concepts of digital literacy and skills, as used by government, education and industry are fragmented and that vocabulary is 'all over the map' as definitions are evolving; there is no agreed definition and no agreed path. Furthermore, there is a need for a definition of digital skills that is not limited to science, technology, engineering and mathematics (STEM), but that encompasses arts and humanities (STEAM). Many accepted definitions of digital literacy involve being able to deconstruct and think critically about media messages and technologies. Some participants considered that the contested nature of these definitions is beneficial as they will evolve and adapt.

Action, on the other hand, in the view of some, is more important than definitions. ICT starts with people. When we introduce, promote or teach digital and communications technologies we must keep the end user in mind. When teaching, we must understand the dynamics of developing learners and integrate digital literacy into existing successful curriculum.

There was also broad agreement among participants that digital literacy is critical but not sufficient. Students have many other important areas of learning in which they must be engaged. For example, they need to learn reading, writing, arithmetic, soft skills (risk-taking, entrepreneurship, self-directed and collaborative learning, critical thinking) as well as technical skills (i.e. designing thinking). These skills will better prepare students as they face an abundance of information, creative potential and social connections digital technologies offer. These core skills remain important to industry and are considered alongside technology skills when hiring. Furthermore, this knowledge and skill set allows us to be more adaptable during changing times, especially since technology is constantly changing.

Participants took a sophisticated view of digital literacy as multi-faceted and complex. Many attendees expressed their enthusiasm for a model of digital literacy put forward by MediaSmarts in the pre-conference framing document.

That model is reproduced here[1]:
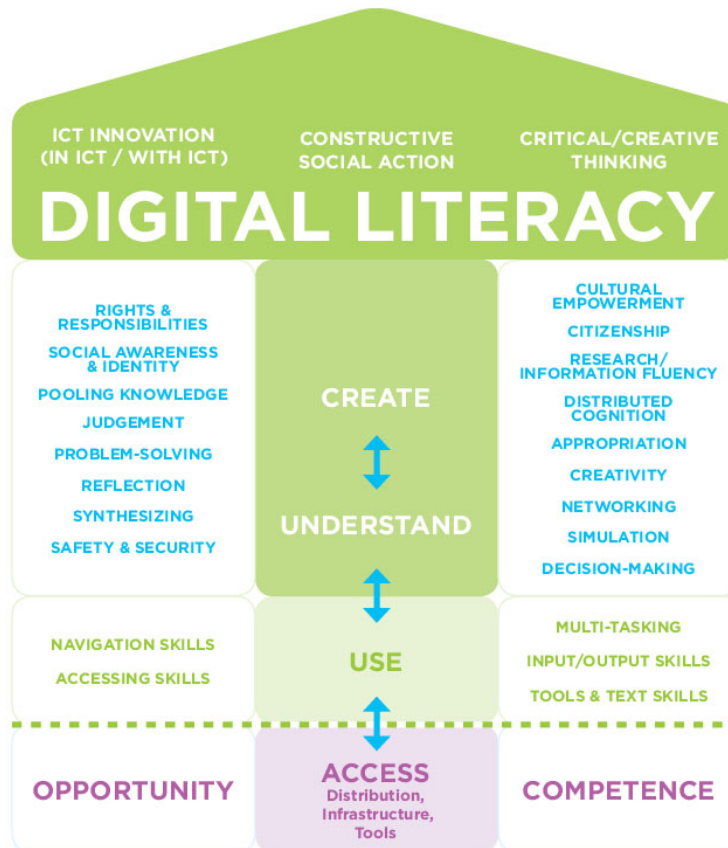
Where do we stand?

As a baseline, it was generally agreed that Canadian youth overall outpace older Canadians with respect to being able to use technology. A presentation by the Council of Ministers of Education, Canada's Andrew Parkin (available online) demonstrates that Canadian youth are generally more sophisticated than their OECD peers and older Canadians.

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[1] This figure is based on models from the Report of the Digital Britain Media Literacy Working Group. (March 2009), DigEuLit – a European Framework for Digital Literacy (2005), and Jenkins et al., (2006) *Confronting the Challenges of Participatory Culture: Media Education for the 21st Century*. http://mediasmarts.ca/digital-media-literacy-fundamentals/digital-literacy-fundamentals

Youth — Proficiency in PS-TRE by age group, OECD average and Canada
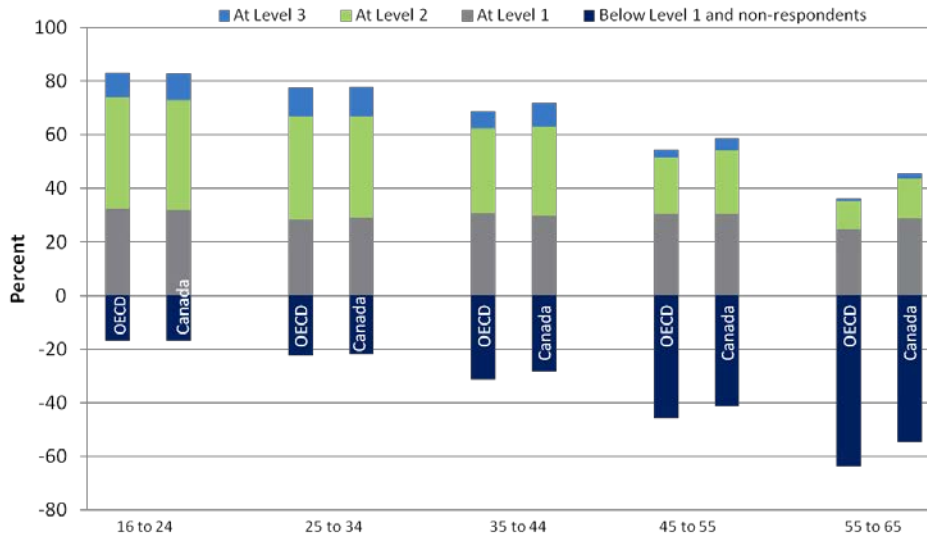
It must be noted, however, that the evidence presented also demonstrated that not all Canadian youth are performing well in the new environment: digital literacy outcomes for Aboriginal and immigrant youth lag behind those of their peers, for example. Digital divides that are the result of income or geographic disparities must also be taken into account.

Participants generally agreed that OECD rankings matter insofar as other countries are moving up in the rankings. Increasing our ranking may involve a variety of approaches including:
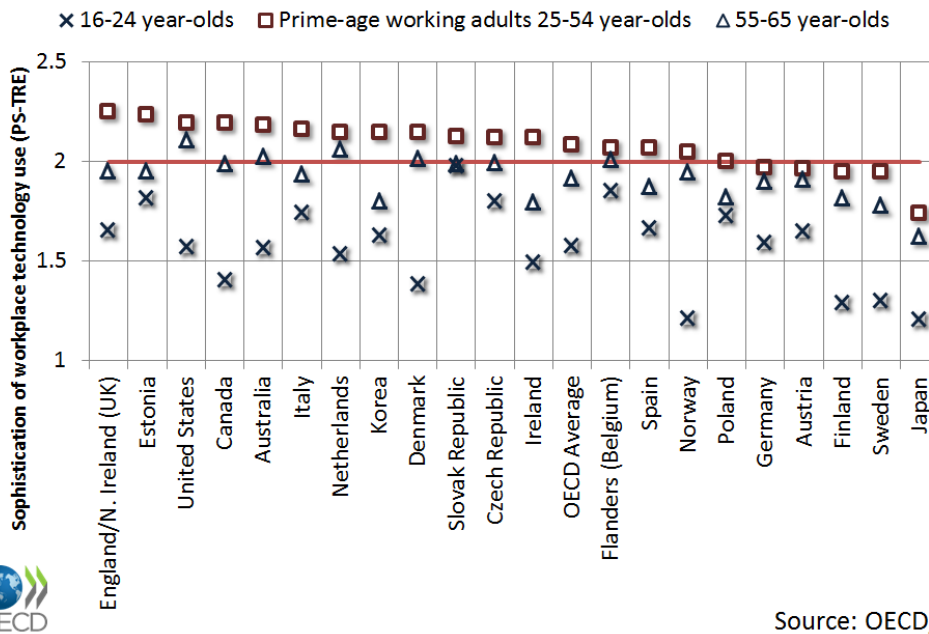
- increasing digital literacy;

- improving our 'digital currency' (speed and price of connectivity);

- greater participation by all groups in the digital economy (for example, more participation by women);

- focusing on 'hybrid' people with the right mix of a rounded education and ICT skills.

The exact approach is not clear and questions remain. Some participants, however, asked whether rankings are overemphasized in discussions about digital literacy. Data is important but may require greater analysis to develop more meaningful insights (for example, it was noted that Nunavut had only had schools since the1970s, so should not be compared to the other provinces and territories).

Significant quantitative analysis of Canada's performance on youth digital literacy was presented in keynote presentations by both Andrew Parkin and Andrew Wyckoff (see graphic below). Participants are encouraged to review these presentations online.

Engage youth with ICTs at work

Internet use at work, by age group

× 16-24 year-olds   ☐ Prime-age working adults 25-54 year-olds   △ 55-65 year-olds

Source: OECD, PIAAC

ACTION

The Whole Community Is Responsible For Supporting Youth

A high-level consensus emerged among Symposium participants (not unexpectedly) that increasing digital literacy is the responsibility of many stakeholders. The greatest impact on workers in all industries will be made when all stakeholders undertake a concerted effort to ensure that Canadian youth have the necessary digital literacy and skills to participate meaningfully in society and take advantage of new economic activities.

There are many key stakeholder groups who need to be involved: governments, industry (corporations and small and medium enterprises (SMEs)), education (districts, schools, teachers, and administrators), libraries, community (family, online networks, special interest groups), learners and parents of learners. All these entities play an important role in developing, maintaining and in encouraging more advanced ICT skillsets. The development of partnerships to discuss skills gaps (industry and education) and ICT access (education and libraries as they change to address the digital world) is especially critical.

- **Education:** Educational institutions play an obvious and central role in teaching digital literacy skills, but participants were clear that formal, public education does not bear the only responsibility.

- **Libraries:** Many public libraries are becoming digital activity centres where different forms of informal, connected learning can take place.

- **Government**: Government's role as policy creator is somewhere in the middle between education and industry, and participants expressed their hope for a federal digital strategy to emerge in the near future that includes digital literacy. Jurisdictional boundaries are a reality because education is a provincial/territorial responsibility, so all government stakeholders must find ways to better coordinate to enable action. As a lead policymaker in this area, the federal government could act as a convener, providing incentives and encouraging innovation.

- **Parents**: Teachers play a critical role in a child's education but so do parents. Outside of school, parents are often involved in teaching children how to use digital media. When teaching technology parents can help address basic literacy challenges and help children learn skills needed by their future employers. All participants agreed that a greater focus must be placed on the role of families: empowering parents with digital literacy skills to better help their children.

- **Industry** – Industry is a key stakeholder in the development of ICT skills. As such, companies can help by providing more opportunities for mentoring, apprenticeships and internships. This would involve industry and education collaborating on a shared goal of educating the student/future worker. As one participant noted, "Industry can't export the learning problem to education but education doesn't have a monopoly on learning". Resources, participants agreed, will be required on the part of industry – either as partners in formal education or as investments in training.There was recognition on the part of participants that small- and medium-sized enterprises (SMEs) might be particularly challenged to address skills and literacy issues, immersed as those are in the demands of daily business. Larger enterprises might be expected to shoulder some of the societal responsibility for training and learning, but SMEs will likely require assistance.

- **Individuals** – Ultimately it is the individual who will reap the benefits of increasing their knowledge in ICT. It is the hope that all individuals will work on becoming increasingly engaged in their self-development with respect to ICT. For example, an educator might choose to learn more about a workplace so the knowledge gained can be transferred to students.

1. Education

Educating Canadians is a critical undertaking in the digital age and is the responsibility of many. There are numerous key components to achieving this goal. Ultimately we must consider what kind of skills young people need to be successful.

Participants were clear that 21st century digital skills must be built on literacy and numeracy skills. Without these foundational skills we will only create a greater digital divide. Once we focus on literacy and numeracy, technology will follow, in the view of some.

Teaching digital literacy is a relatively new endeavour and different approaches bear careful consideration. Technology in the classroom can enhance the learning experience (the example cited was of older students mentoring younger students online) but may not always be appropriate. For example, a teacher who assigns an online collaborative project where students post overtly critical comments of each other's work, may unintentionally inhibit learning. Many young people need to feel safe and have privacy in order to learn and be creative, so consideration needs to be given to ensure that technology in the classroom facilitates collaboration in a way that respects these basic needs. Furthermore, restrictive school policies may reduce teachable moments, for example, when a school closes access to websites, which kids need to do their work, and prohibits platforms that provide authentic experiences for learning digital skills.

There was a general feeling among participants that young people are successfully learning how to use technology and do better than adults in increasing their digital literacy. Youth are socially driven and want to be online to interact with peers. They also are highly engaged in interest-based learning (i.e. learning about areas of interest, collaborating and co-creating online). At the same time, they need to be taught the ramifications of their choices and how to make the best use of the abundance of information and technology that is available. Because a significant amount of learning -- both through and about technology -- is done autonomously by students, we need to find ways to facilitate and support this. Adults, including teachers, would benefit from easy-to-access information on digital literacy education activities. Several participants noted the frequent role-reversals in the teacher/learner relationship as students bring new technologies and services into the classroom. The notion of the "flipped classroom" (where online learning is done at home and homework is done in class) was also cited as a model that could enhance the learning process.

Educators and parents must also consider the potential health impacts on young learners. Some participants pointed to data that is emerging suggesting that excessive use of technology in young children can lead to issues such as short attention span and inability to do long term planning.

Participants were clear that improving educational outcomes with respect to digital literacy will require adequate resources, particularly in the area of professional development. Funding is an ongoing challenge, but is critical to undertaking sophisticated approaches to digital literacy.

Takeaways

1.1. **Competencies** – Industry seeks key competencies in the workforce. Many participants noted that the more specific industry can be about the skills that they require now, and in the future, the more educators can support learners in developing the technical and/or soft competencies that are needed. From the graduates' perspective, hiring practices should reflect their post-secondary skills and knowledge.

1.2. **Enhance Learning** - *"ICT is ubiquitous but the ability to cope with it is not."* Technology constantly evolves and it's essential that workers, learners and citizens keep up with the changes. Flexibility, creativity, critical thinking and adaptability are key skills for youth because many of the jobs they will be competing for when they graduate don't exist today. This ability to be constantly on top of technological changes is a concept reflected in the term 'entrepreneurial learners'.

We must look seriously at the drivers and motivators associated with digital technology programs. From an educational perspective, universities need to be more responsive to what students want and what industry needs (i.e. blended skills) by integrating authentic applications for technology into the learning process and by enhancing existing curriculum. In addition, mentorships, apprenticeships, co-op placements and internships will allow students to understand industry needs and be better prepared when they graduate.

We must also convince adults of the benefits they will gain from digital literacy skills and promote learning outside of schools. Industry can support continuing education by providing relevant training to workers (example: in-house education as part of job training or training provided by an external organization).

1.3. **Work Experience** - Work experience is a key predictor of successful employment, and businesses need to be more engaged in facilitating this. Large industries can participate in rescaling and retraining programs, but SMEs may lack the capacity to support such formal training. SMEs can contribute to work experience through apprenticeships, co-ops, mentorships, and internships which will help secondary and post-secondary students learn skills in ICT and entrepreneurship. In his keynote welcome speech, the Honourable Jason Kenney, Minister of Employment and Social Development, spoke of the utility of Germany's vocational educational system that is now under consideration in Canada.

Bridging what is learned in school and what is needed in industry is critical if youth are to gain skills and pathways to employment. However, it is not always clear how children's and teens' learning translates to experience in the workforce. As a result, it is up to students to determine exactly what industry wants (tools, personal motivation, training, formal education, etc.) so that they can be 'workforce ready'.

An interesting approach to making learning more relevant and effective would be to 'co-design' by asking people how they prefer to learn and then finding ways of using technology to support their goals and projects. In this approach we are not focused solely on the technology but rather it supports relevant learning.

1.4. **Student – Teacher Relationship** – Some participants felt that in the pursuit of teaching technology we have lost a focus on the teacher-student relationship. ICT is not a substitute for this critical relationship which is at the heart of learning. A suggested use of technology is to integrate it only when it enhances the learning process, in order to ensure that classroom time supports rich interpersonal dialogue, critical thinking and reflection. Additionally, it was suggested that students be engaged in something they like and then be left to find their own resources (for example, when discussing a topic, the student can create a visual presentation using software that has been made available but not necessarily taught to them).

1.5. **Teachers and Teaching** – Participants were clear that excellent teachers will never be obsolete because teaching is not just disseminating information but motivating, engaging and advancing learning processes. The acquisition of digital literacy skills is a lifelong process that necessitates

people being taught *how* to learn, not *what* to learn. It is clear that digital literacy skills need to be taught in a way that they are relevant to students and transferrable both inside and outside of school and across a variety of platforms. The current education system must, therefore, be able to support this ongoing learning.

One essential issue surrounding teaching youth digital skills is deciding when ICT is, and is not, appropriate in the classroom. This includes, for example, teachers understanding which technologies are best suited to the learning styles of their students and knowing when technology is more likely to be a distraction than a learning tool. Participants reiterated the belief that technology can be effective, but the focus needs to be placed on pedagogy. They also stressed the importance of ensuring that teachers have the necessary digital skills themselves to ensure that technology is implemented in their classrooms in productive and engaging ways.

Finally, it should be noted that facility with ICT is not interchangeable with teaching knowledge. For example, younger teachers – who lack the classroom management skills and experience of older colleagues – may find it more difficult integrating technology into their classrooms, even though they are more immersed in digital culture.

Fewer Canadians are enrolling in STEM courses at a time when jobs in these fields are growing more rapidly than in other areas. It was suggested that programs and systems be 'wrapped' around education through offering such things as freely accessible high quality learning resources; credentials which recognize learning and expertise both inside and outside of schools; inclusion of non-formal instruction; supporting the reinvention of learning institutes (e.g. creating learning labs for producers and creators); and injecting entrepreneurial conversations into the education system.

Opportunities for learning digital skills are moving beyond brick and mortar schools. Keynote presenter Elise Eidman-Adahl described the work being done in the United States by the MacArthur Foundation to support and promote 'connected learning' initiatives, where learning takes place through projects that are production centered, have a shared purpose, and are openly networked with peers and mentors. As well, online educational offerings such as Massive Open Online Courses (MOOCs) are growing in popularity, while community-hosted workshops such as Hive Pop-Ups, Ladies/Girls Learning Code, Maker Faire and hackathons offer youth opportunities to explore technology as a hands-on creative experience outside the formal educational system.

2. Credentialing

With the internet and 24/7 connectivity learning is happening everywhere, and ICT skills are being developed at school, work, in the home, while traveling and at libraries. How can an employer, for example, know what ICT skills an individual has learned? Credentialing appears to be one solution.

Mozilla digital and open badges – that can be used for employment, education and lifelong learning – were used as a model for how this might work. These badges, which are freely available and are based on an open technical standard, are transferable, 'stackable' and evidence-based, providing unique opportunities to learn and promote digital skills and achievements.

Takeaways

2.1.   Recognition of formal and informal learning is needed to know what skills have been developed. Investment in recognition and credentialing systems (for example, a badge system as has been used traditionally by organizations such as the Boy Scouts or in the digital world by video game)

that follow the learner would support this goal. This can be part of a larger web literacy initiative which would form part of the learning ecosystem. This important learning would be self-guided and self-directed so people can seek their own learning experience and get recognition and certification of their skills proficiency.

3. Supply and Demand

We have a large growth area in Canada for ICT. Matching the demands of industry and the need for employment in ICT will help streamline the labour market and create a win-win situation for all.

3.1. **Converting Users To Creators** –Individuals who use technology can be divided into two general categories: users and producers. Users apply technology whereas producers use technology to create. Participants noted that with respect to digital literacy, we have focused on youth as users, with specific skills (such as coding) being taught only to those whose career path will lead to ICT jobs. How much are youth actually using technology to produce versus just being consumers? Are they taking what they learn in ICT and growing it into businesses? We are surrounded by digital tools which allow low cost of entry to production and collaboration.

At present it appears we have many users, with more producers needed to increase the supply of ICT professionals which are in high demand. For example, a shift from using games to developing games, or having post-secondary students conduct in-depth research (i.e. databases and core sources of information) and not simply use top line results from common search engines. To achieve this new balance we can support and reach out to individuals using a 3P approach: People – surround them with people who will guide them, Place – provide a venue for collaboration, and Promotion – tell the world, showcase successes.

Using the example of gaming above, the Canadian gaming industry is currently asking the government to allow skilled workers into the country who have expertise that is missing here. If we have youth who are really interested in gaming, but are not interested in becoming game developers, the question is, "How do you convert these users into potential workers in the ICT space?" Seeking concrete actions that Canada can implement in order to foster a vibrant digital workforce is of critical importance. One participant suggested linking students to mentors in the gaming industry, as a means to encouraging careers in this sector.

3.2. **Demographics –** Canada is unique in its demographic makeup. Our global ICT ranking, which is established using surveys, may be negatively impacted by this makeup as many respondents do not have English or French as their first language. Furthermore, Canada must consider its makeup with respect to geography, age, sex, usage patterns, immigration, Aboriginal status, literacy and unemployment; all these must be factored in to understand the reality at the ground level before providing solutions for competitiveness.

3.3. **Talent -** We are training Canadians for the global workforce and we are doing well compared to many other countries around the world. However, Canada has lost lower-skilled jobs to other countries and we need to maintain and promote higher-skilled jobs (such as robotics) here in order to retain Canadian talent. A different perspective is that this 'brain drain' may not be as relevant in ICT, as Canadian workers often collaborate on international projects. Overall, there is agreement that we need to retain and grow high-level ICT jobs and ensure that Canadian workers have the required skillsets for the demands of industries. This will require both up-skilling of Canadians and maintenance of these skills.

We see other countries consistently moving ahead of us in this area (Korea, China). Some of these countries place a high value on tutoring outside the classroom; a trend that is growing here. But can we compare Canada to these countries? The answer is a qualified yes, but at the same time we need to understand that each country is unique (ex. how children are raised, length of time in school, different cultures, focus on STEM professions, specific social and economic stresses, etc) and there is no single universal measure.

3.4. **A balanced approach**

The need for technology skills is seen not only in the ICT sector but across the whole economy. Although Industry has indicated that there are skills shortages, in some cases this may be more of a labour shortage. Overall, there is a bright outlook in Canada for high job growth in ICT and specialized technological skills. To better engage youth, this demand could be communicated through online databases of unemployment rates, incomes and the many jobs that people may not know exist. This information can become an incentive to youth, who are facing double-digit unemployment rates, or employment for which they are underpaid and/or over-educated.

Canada has traditionally supplemented its workforce with high levels of immigration. This has helped compensate for Canada's decreasing birthrate, but if we rely on immigration to fill this skills gap we leave younger Canadians out of the prosperity cycle, and this is a problem for social cohesion and inclusion.

3.5. **Introduction** – Amid concerns, Canada has much to celebrate: our ICT industry has less than 3% unemployment. More has to be done in making young people aware about the opportunities that exist in ICT.

3.6. **Collaboration –** While collaboration is desired, the many different motivations from different stakeholders must be recognized along with their different roles. Digital literacy skills are important and are of great interest, however it should be noted that some Canadians may feel they have no need for ICT skills.

At times, organizations, programs and expertise can be highly segregated, creating opportunities for more collaborative work. Other benefits of collaboration include: leveraging the potential for cultural and civic engagement; working on improving levels of engagement amongst sectors; embracing the creative tensions between the stakeholder groups. As well, taking steps to develop and strengthen links between the world of learning and the world of work would be beneficial.

4. **A national digital literacy and skills strategy**

Multiple participants in the Symposium expressed their view that it would be beneficial to address many of the issues raised above with a national digital literacy and skills strategy. The key takeaways were as follows.

4.1. **Develop a national digital literacy and skills strategy** – Multiple participants raised the need for a national digital literacy and skills strategy, incorporating views from partners across Canada. Questions to be considered might include: What are the goal(s) or objective(s)? What are we trying to accomplish or achieve? What outcomes are we seeking? What stakeholders should be brought into the conversation from across the whole spectrum? What are the roles of the various stakeholders? How can we avoid silos or polarization? Who are we preparing for what? How can we develop/strengthen links between the world of learning and the world of work?

- Education Role – The education sector can collaborate in ways similar to the German model (at the secondary level) by working and integrating programming with industry, and government.

- Industry Role - Industry can have clearer messages about needs and expectations. In relation to education, a discussion about shared spaces and intersections would be beneficial.

- Government Role – Picking up on the 2010 Government of Canada Digital Economy Strategy Consultation, it was reiterated that government needs to play a pivotal leadership role in structuring a national strategy to establish policy in Canada for the digital age.

  In addition to the personal benefits of greater opportunities for learning, employment, and enjoyment, a digital literacy strategy will generate significant economic and social benefits for all Canadians.

  These include:

  - Increased consumer confidence and trust in the online marketplace
  - Supporting Canada's capacity to innovate with digital technologies in the general workplace, healthcare, and educational sectors
  - Supporting the growth of Canada's information and communications technology industries
  - Supporting the development of Canadian digital media content

4.2. **Evidence – To make intelligent and informed decisions, evidence is needed.** In the short-term, there was a suggestion to conduct a digital literacy audit followed by longer-term measurements and evaluation tools. It was noted that what gets measured gets managed. It was also noted that publically-available information on best practices should be made accessible to decision makers across all sectors.

4.3. **Funding –** The Canada government invests more in education than other OECD countries, but Canadian industry invests less. It was suggested that both government and industry should invest more in digital skills training.

4.4. **Integrated and Systematic Change –** With respect to increasing digital literacy and skills in Canada, we should be approaching it in systematic, integrated, and creative ways that recognize that different situations demand different sets of solutions. For example, the 'youth' demographic falls under many different categories: homeschooled students, youth within the education system, youth outside of the education system, youth who are vulnerable or marginalized, post-secondary graduates, etc. We must consider building citizens versus just training a workforce as all Canadians "are in the business of learning".

4.5. **Planning -** Policy makers need to think long term, collaborating with stakeholders to develop and implement a vision that is constant for at least five years in order to build momentum. A long-term view doesn't have to be a "fixed" vision; adaptability must be integrated into policy in order to facilitate a 'learn-to-learn' approach.

In terms of planning, there is a linear progression (from educational research, to industry and finally to government policy) that stymies innovation. Alternate models should be considered.

Finally, planning shouldn't only focus on the highest achievers, but must also take into account those people who are traditionally left behind. As we know, data focuses on averages, but we need to see who is at both ends of the spectrum as well as in the middle: polarize or divide is not the way to go. Evidence does not support approaches that focus only on high achievers – if if we help raise those at the bottom that raises all of society.

NEXT STEPS

ICTC and MediaSmarts are grateful for the engagement of such a distinguished group of industry representatives, policy-makers, academics, educators, librarians, community leaders and students in the symposium. The discussion, with the excellent facilitation of Peter Miller, was rich and stimulating. We have seen multiple connections made as a result of the event and are pleased to have played a role in providing this diverse group the opportunity to meet and discuss common issues.

At the highest-level, participants have expressed a strong interest in continuing this dialog with all stakeholders involved, possibly at a regional level. The goals of further discussion could be:

- To create opportunities for the various stakeholder groups to share best practices and innovative solutions to digital literacy and skills development for youth;
- To collaborate with policy-makers on the possible shape of a national digital literacy strategy;
- To present potential industry partners with practical opportunities for partnership on initiatives that would be of benefit to both civil society and enterprises;
- To solidify exchange mechanisms between educators and industry to ensure that the former are abreast of the latest industry developments; and,
- To identify opportunities for further research, white papers, and collaboration opportunities.

To these ends, the organizers are exploring mechanisms for continued meetings and employing web tools that can broaden the discussion.

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