



News Release

STEM capacity important for long-term growth and innovation, finds Expert Panel

Ottawa (April 30, 2015) – Released today by the Council of Canadian Academies, a new expert panel report, ***Some Assembly Required: STEM Skills and Canada's Economic Productivity***, addresses how well prepared Canada is to meet future skill requirements in science, technology, engineering and mathematics (STEM). Overall, the Panel found that supply and demand for STEM skills have been balanced at the national level, over the long-term. However, there is room to improve in the quality and level of STEM skills held by all Canadians.

Canada has one of the most highly trained workforces in the world. Maintaining and developing Canada's strength in this regard is a central pillar for future prosperity. Many believe that Canada has been lacking a robust STEM trained workforce and this is a cause for concern. After reviewing the available evidence, an 11 member expert panel chaired by David Dodge determined that STEM skills are necessary but not the sole requirement for future innovation and productivity growth. A balance of skills must be struck. Leadership, creativity, adaptability, and entrepreneurial ability can help maximize STEM skills and allow Canadians to effectively compete within the ever-changing global marketplace.

"Over our 18 month assessment we came to the conclusion that fundamental skills for STEM are a central component for a strong and vibrant workforce and can equip people with options in uncertain labour markets," said David Dodge, Chair of the Expert Panel. "To strengthen Canada's capacity for innovation and prosperity the Panel determined that early childhood exposure and education in STEM skills is vital and will prepare the next generation to take on a variety of roles, both in and outside of STEM fields."

The Panel identified three key types of STEM skills. *Fundamental skills* include reasoning, mathematics, problem solving, and technological literacy. They are important regardless of occupation. These can be learned at an early age. Building on these are, *practical skills* developed through training in technologies, applied sciences and the trades, and *advanced skills* that enable engagement in discovery or applied research - including development of new technologies.

Other findings discussed within the Panel's report include:

- It is not possible to definitively determine what skills and knowledge will be required for the jobs of the future.
- Long-term economic outcomes matter. A focus on narrowly specialized STEM skills development to meet short-term labour market requirements may have little relevance for meeting long-term skill requirements.
- Developing a flexible labour force requires collective, coordinated action to facilitate education, training, and mobility.
- To build capacity and maximize Canada's potential for innovation, evidence points to the value of early childhood interventions to strengthen fundamental skills.

- Support for under-represented populations in STEM is important for broadening Canada's STEM skill supply.
- STEM skills are global skills. Emigration is more than offset by immigration. Overall, Canada does not appear to be losing skilled individuals.

For more information or to download a copy of the Panel's report, visit the Council of Canadian Academies' website, www.scienceadvice.ca.

About the Council of Canadian Academies

The Council of Canadian Academies is an independent, not-for-profit organization that began operation in 2005. The Council undertakes independent, authoritative, science-based, expert assessments that inform public policy development in Canada. Assessments are conducted by independent, multidisciplinary panels (groups) of experts from across Canada and abroad. Panel members serve free of charge and many are Fellows of the Council's Member Academies. The Council's vision is to be a trusted voice for science in the public interest. For more information about the Council or its assessments, please visit www.scienceadvice.ca.

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