

# 21<sup>ST</sup> CENTURY LEARNING FACT SHEET

## Changes in Education

Change in education around the world is being driven in part by exciting new research on how the brain works and how people learn (*Western and Northern Canadian Protocol, 2011*). Learners must not only develop knowledge, but also skills, attitudes, and values that will help them to be capable people. For that to happen, they need to actively participate in and be motivated by their learning. Research and experience demonstrate that effective learning happens when students direct their own learning and work together, inside and outside the classroom.

Change is also being driven by new technologies that enhance learning. New tools allow students to interact with other learners anywhere in the world (*Davidson & Goldberg, 2009*). Easy access to endless amounts of online information is shifting the teacher's role from being a holder of information and expertise, to that of a critical coach, showing students how to select, work with, and apply information in meaningful ways, to meaningful questions (*Warlick, 2008*).

International research and data are pointing to difficulties that many of the world's current education systems are having in preparing students for the demands of today's fast-changing world. People everywhere are concerned with engaging learners in their learning and helping them develop the knowledge and skills needed for the needs of today's workplace, or for further education or training (*The Organisation for Economic Co-operation and Development, 2013*).

Educational research is also showing that education which considers the well-being of the whole person (cognitive, emotional, social, spiritual, and physical) can improve academic success overall. This includes supporting and teaching self-regulation, resilience, and a positive sense of identity. It is clear that to improve student success, students' environments and experiences must be developed in a holistic way (*Diamond, 2010*).

(Above sourced directly from: *NWT Education Renewal and Innovation Framework: Directions for Change, 2013, p.4*)

## In order to prepare for 21<sup>st</sup> Century learning, teachers must:

- Have a rich repertoire of teaching strategies, the ability to combine approaches, and the knowledge of how and when to use certain methods and strategies.
- Use strategies which include direct, whole-group teaching, guided discovery, group work, and the facilitation of self-study and individual discovery. They should also include personalized feedback.
- Have a deep understanding of how learning happens, in general, and of individual students' motivations, emotions and lives outside the classroom, in particular.
- Be able to work in highly collaborative ways, working with other teachers, professionals and paraprofessionals within the same organization, or with individuals in other organizations, networks of professional communities and different partnership arrangements, which may include mentoring teachers.



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- Acquire strong skills in technology and the use of technology as an effective teaching tool, to both optimize the use of digital resources in their teaching and use information-management systems to track student learning.
- Develop the capacity to help design, lead, manage and plan learning environments in collaboration with others.
- Reflect on their practices in order to learn from their experience.

*(Above information sourced from: OECD, 2012, p. 38)*

## Teacher Role to Facilitator Role

- In the information age, teachers are no longer regarded as the bearers of knowledge who must transmit content to students. Rather, teachers of the 21st century are being characterized as brokers or facilitators who help create a “culture of inquiry” and assist learners to navigate the web of information, make interdisciplinary connections, and apply learning to real world problems (*Hung et al., 2012*).
- Teachers are to provide learner-focused instruction, where the student is placed “at the centre of the learning process, encouraging self-management and a high degree of self-efficacy” (*Ashton & Newman, 2006, p. 828*).
- Teachers are to assist students in developing more advanced knowledge, skills and competencies that extend beyond the learning of facts and procedures, which include:
  - 1) Foundational Knowledge: core content knowledge; cross-disciplinary knowledge (literacy, numeracy); digital/ICT literacy.
  - 2) Meta-Knowledge: problem solving & critical thinking; communication & collaboration; creativity & innovation.
  - 3) Humanistic Knowledge: life/job skills/leadership; cultural competence; ethical/emotional awareness. (*Kereluik et al., 2013*)
- As society shifts from an industrial to a knowledge-based economy, teachers must prepare students for industries that may not currently exist (*Friesen & Scott, 2013*).
- Despite the accessibility of information available to students via the web, the need for teachers to continue to have specialized disciplinary knowledge will remain essential in the 21st century (*Kereluik et al., 2013; OECD, 2012*).

## Pedagogical Practices

- Teachers are expected to personalize educational experiences to provide learner-centered education (*OECD, 2012*).
- Teachers are expected to be innovative and generate new sources of growth to help students meet the changing demands of the 21st century labour market (*OECD, 2012*).



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- Teachers are encouraged to utilize forms of inquiry-based learning<sup>1</sup> which have been shown to have a positive impact on student engagement and achievement outcomes (*Friesen and Scott, 2013*).
- It is essential that inquiry-based learning include guided discovery methods and should not be confused with minimally-guided instruction (*Friesen & Scott, 2013*).

## Technology

- The 21st century demands the ability to understand and make use of information and communication technologies (ICT). It is cautioned, however, that technology is not an end in itself, and thus it must suit the needs of both learners and teachers to advance and support learning (*OECD, 2012*).
- As noted by Kereluik et al. (2013), technologies do not have predetermined outcomes, but rather open up possibilities depending on how they are used.
- Livingstone (2012) has raised some critiques of the impacts of ICT on learning, stating that, despite the praise of these technologies, there have been few independent evaluations that show a clear benefit.

## Professional Development and Collaboration

- Teachers are to be high-level knowledge workers who are engaged in life-long learning to further advance their own knowledge and that of their profession (*OECD, 2012*).
- Teachers need to be able to work together in order to:
  - 1) design learning environments,
  - 2) address the needs of students,
  - 3) develop professionally, and
  - 4) teach in teams (*OECD, 2012*).
  - The sharing of expertise through collaboration has been shown to have a positive impact on student outcomes (*Hattie, 2015*).
  - Collaboration through professional learning communities has been shown to have a positive impact on professional culture, school climate and student achievement (*Vescio et al., 2008*).
  - OECD's Teacher and Learning International Survey (*TALIS*) (2008) noted that more than half of teachers surveyed wanted more professional development during the survey period. Lower secondary teachers, in particular, reported a need for more professional development concerning the use of ICT.

<sup>1</sup> Inquiry-based learning entails the use of questions, problems, and scenarios to help students learn through their own agency and investigation, rather than simply presenting facts (*Edutopia, 2016*).



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