

# FOUNDATIONAL SKILLS NEEDS AND WHAT SOCIAL SCIENCES AND HUMANITIES NEED TO KNOW.



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## ANALYTICAL GLOSSARY

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La **COLLABORATIVE**

The/La Collaborative is a network of researchers based at McMaster University dedicated to creating new models of knowledge mobilisation and talent-building that put Social Sciences and Humanities knowledge at the heart of the community. It offers social sciences and humanities researchers opportunities to leverage their know-how to engage, create, and demonstrate the value of their disciplines while meeting their community's needs meaningfully and with relevance.

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# ANALYTICAL GLOSSARY

One purpose of this glossary is to illustrate use, and to fix the reference of the notions we chose in order to talk about perceptions of talent needs. We compile synonyms and semantic equivalences for the 12 foundational skills we've identified in our analysis of the literature. Each skill-term in the Glossary is referenced to its occurrences in the literature we used in our workbooks. In many cases, descriptions and claims involve reference to more than one foundational skill, but this is just a reflection of the extent to which individual skills are intertwined. This explains why some quotes show up in more than one category in the glossary. In the workbook, however, quotes appear only once.

# FOUNDATIONAL SKILLS NEEDS AND WHAT SOCIAL SCIENCES AND HUMANITIES NEED TO KNOW.

## Analytical Glossary

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## ANALYTICAL THINKING SKILLS

4 occurrences of 'analytical', verbatim and cognates: World Economic Forum, 2018, p.29; Business Council of Canada, 2020, p.9; Young Entrepreneurs' Alliance, 2018, p.22; Finnie et al., 2018, p.10.

Expressions interpreted as equivalent:

- "analyse and filter information" (ref: British Academy, 2017, p.24)
- "analyse problems" (ref: World Economic Forum, 2016, p.6)
- "analysing situations" (ref: Lowden et al., 2011, p.6)
- "understanding and assessing evidence" (ref: British Academy, 2017, p.25)
- "Assess situations to identify problems" (ref: Conference Board of Canada, 2020, p.2)
- "think on your feet, assess problems and find solutions" (ref: U.S. Department of Labor, 2010, p.98)
- "leaders stated that [...] firms will seek employees with complementary skills sets, such as data analysis" (ref: Institute for Competitiveness and Prosperity, 2018, p.15)
- "...evaluation of information from multiple sources" (ref: Hart Research Associates, 2013, p.8)
- "acquire and evaluate information" (ref: Weingarten et al., 2018, p.16)
- "determine deeper meaning or significance of what is being expressed" (Davies et al., 2011, p.8)
- "research skills" (Easton and Djumalieva, 2018, p.4)

The line between the notions of 'critical thinking' and 'analytical skills' is not a clear one. In order to ensure that our working definitions were consistent, we focused on some distinguishing features. Analytical thinking skills have to do with comprehending and making sense of information – we chose to include the analysis of datasets as well, although this is very specific – and

figuring out how to factor that information in, as summed up in “research skills” (Easton and Djumalieva, 2018, p.4). Analytical thinking is applied to different targets – information, situations, problems or evidence – and most often includes an evaluative component. ‘Critical thinking’, for the purpose of this report, describes what we do with that information – asking questions about it, putting it together into arguments, evaluating its import, etc.

## CAPACITY FOR CONTINUOUS LEARNING

16 occurrences of ‘active’, ‘life-long’ and ‘continuous learning’ verbatim: Hart Research Associates, 2013, p.6; Lyonette et al., 2017, p.54; Conference Board of Canada, 2020, p.3; World Economic Forum, 2018, pp.7, 12, 14, 23; Weingarten et al., 2018, pp.4, 10; Institute for Competitiveness and Prosperity, 2017, p.24; Braham & Tobin, 2020, p.5; British Academy, 2017, p.26; Accenture, 2018, p.15; Edge et al., 2018, p.27; Lowden et al., 2011, p.6.

Expressions interpreted as equivalent:

- “the unbundling of tasks will make worker adaptability [...] more important” (ref: Crawford et al., 2020, p.12)
- “initiative and adaptability to navigate” (ref: World Economic Forum, 2016, p.6)
- “individuals to be resilient and adaptable through change, taking on new tasks or roles” (ref: Institute for Competitiveness and Prosperity, 2017, p.19)
- “require adaptability to novel situations” (Oschinski & Wyonch, 2017, p.10)
- “adapt to changing requirements and information” (ref: Conference Board of Canada, 2020, p.4)

- “adapt to changing and ambiguous circumstances” (ref: The Conference Board of Canada, 2020, p.3)
- “adapt to changing circumstances and new constraints” (ref: Phelps, 2014, p.3)
- “be open and respond constructively to change” (ref: Conference Board of Canada, 2020, p.3)
- “improve their skills on an ongoing basis” (Braham & Tobin, 2020, p.18)
- “be willing to continuously learn and grow” (ref: Conference Board of Canada, 2020, p.3)
- “pivot, transition and succeed from one opportunity to the next” (Future Skills Council, 2020, p.14)

On our interpretation, adaptability is an individual quality that depends on the capacity for continuous learning. Expressions we took to be equivalent in meaning spoke of skills needed to learn and keep up with changing information, changing circumstances, and changing requirements. This “keeping up” requires the ability to take in, understand and apply (i.e., learn) the new information or circumstances correctly. To be “adaptable” employees need to be able to do so more than once, and consistently.

There were also references to adaptability as an organisational-level feature. These were not included here.

## COMMUNICATION

40 occurrences of ‘communication’ verbatim and cognates: Raybould & Sheedy, 2005, p.262; Business Council of Canada 2020, pp.1, 24; The Conference Board of Canada, 2020, pp.2, 3, 6, 9, 11, 12; Cukier et al., 2015, pp.8, 11, 24; Pizarro et al., 2019, p.13; Weingarten et al., 2018, pp.10, 16; Braham & Tobin, 2020, p.5; Institute for Competitiveness and Prosperity 2017, p.24; Davies et al., 2011 p.10; Lyonette et al., 2017, p.1,

55; Archer & Davidson, 2008, pp.7, 8; Future Skills Council, 2020, p.13; World Economic Forum, 2016, pp.4, 6, 12; The British Academy 2017, pp.22-23; Harrison, 2017, p.5; Lowden et al., 2011, p.6.

Expressions interpreted as equivalent:

- “Communication is a two-way street; active listening and trying to understand...” (ref: The Conference Board of Canada, 2020, p.11)
- “listening skills” (ref: Cukier et al., 2015, p.8)
- “active listening” (ref: Accenture, 2018, p.15)
- “Ability to listen to other opinions” (ref: Lyolette et al., 2017, p.55)
- “using language effectively” (ref: Lowden et al., 2011, p.6)
- “effectively communicate orally” (ref: Hart Research Associates, 2013, p.8)
- “ability to effectively communicate orally” (ref: Hart Research Associates, 2013, 8)
- “linguistic skills” (Davies et al., 2011, p.9)
- “above-average comprehension skills; writing skills” (ref: Frenette & Frank, 2017, p.16)
- “reading comprehension and writing” (Institute for Competitiveness and Prosperity, 2018, p.18)
- High scores on “writing assessment” (Finnie et al., 2018, p.30)
- “reading comprehension [...] and writing” (re: Institute for Competitiveness and Prosperity, 2018, pp.10, 11)
- “present work through visual or technological mediums” (ref: Edge et al., 2018, p.27)

- “contribute to a team by sharing information and expertise” (ref: Conference Board of Canada, 2020, p.4)

Effective communication as we use it has a broad meaning that includes oral communication, but also important features of active listening as a condition of effective teamwork. In the literature, reference is often made to both sides of communication: whether it be written, verbal, or through other mediums, the skills to receive (e.g., active listening, reading comprehension) and reply (e.g., effective oral communication), were both mentioned.

## CREATIVITY

24 occurrences of ‘creativity’ verbatim: Accenture, 2018, pp.22-23; British Academy, 2017, p.26; Edge et al., 2018, p.27; Lyonette et al., 2017, p.55; OECD, 2015, p.36; World Economic Forum, 2016, pp.6, 12; World Economic Forum, 2020, p.12; Conference Board of Canada, 2020, pp.9, 11; Young Entrepreneurs’ Alliance, 2018, pp.13, 14, 17, 22; Cukier et al., 2015, p.10; Easton & Djumalieva, 2018, pp.2, 4, 7; Institute for Competitiveness and Prosperity, 2017, p.12; Oschinski & Wyonch, 2017, p.15; Crawford Urban & Johal, 2020, p.13; Lowden et al., 2011, p.6; Phelps, 2014, p.3.

Expressions interpreted as equivalent:

- “be creative and innovative in exploring possible solutions” (ref: Conference Board of Canada, 2020, p.2)
- “be innovative and resourceful” (ref: Conference Board of Canada, 2020, p.3)
- “...reimagine the routines and limits of today’s jobs” (ref: World Economic Forum, 2018, p.7)
- “critical thinking also incorporates aspects of openness to new experience, such as imagination and unconventionality” (ref: OECD, 2015, p.36)

- “proficiency at thinking and coming up with solutions and responses beyond that which is rote and rule-based” (ref: Davies et al., 2011, p.9)
- “conceptualise novel ways of dealing with the problem at hand” (ref: OECD, 2015, pp.35-36)
- “The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem” (ref: Oschinski & Wyonch, 2017, p.10)
- “Originality, and a creative, innovative approach” (ref: British Academy, 2017, p.25)
- “distinctive and original” (ref: British Academy, 2017, p.25)

A theme emerged from the quotes analysed that creativity was often connected to an increased proficiency in other areas, most often problem-solving. In the quotes, creativity seems to allow people to be imaginative, resourceful, in ways that can improve how things are done and solve problems in new ways, bringing positive change and innovation.

## CRITICAL THINKING

25 occurrences of ‘critical thinking’ (or ‘reasoning’) verbatim and cognates: Oschinski & Wyonch, 2017, p.15; OECD, 2015, p.36; Institute of Competitiveness and Prosperity, 2017, pp.9, 12; Cukier et al., 2015, pp.6, 8, 24; Finnie et al., 2018, pp.8, 10; Accenture, 2018, p.15; Young Entrepreneurs’ Alliance, 2018, pp.13, 17; Future Skills Council, 2020, p.13; Weingarten et al., 2018, pp.2, 10; The Conference Board of Canada, 2020, pp.9, 11; World Economic Forum, 2018, p.12; Oschinski & Wyonch, 2017, p.15; Crawford et al., 2020, p.13; U.S. Department of Labor, 2010, p.98; The Conference Board of Canada, 2020, p.3; Harrison, 2017, p.5; Davies et al., 2011, p.10.

Expressions interpreted as equivalent:

- “construct arguments and defend them using carefully gathered evidence” (ref: Edge et al., 2018, p.27)
- “developing research questions and structuring arguments” (ref: Edge et al., 2018, p.27)
- “understanding and assessing evidence [...] challenging conventional wisdom and not necessarily repeating existing views” (ref: British Academy, 2017, p.25)
- “cognitive skills [...] allow people to better understand information to make decisions and solve problems” (ref: OECD, 2015, p.24)
- “higher order cognitive skills (such as critical thinking)..” (ref: Finnie et al., 2018, p.8)
- “complex process needed to reflect on, and reason with, the information” (ref: OECD, 2015, pp.35-36)
- “complex reasoning” (ref: Accenture, 2018, p.15)
- “critically assessing the evidence” (ref: British Academy, 2017, p.24)
- “deductive reasoning” (ref: Accenture, 2018, p.15)
- “evaluate solutions to make recommendations or decisions” (ref: Conference Board of Canada, 2020, p.2)
- “using logic to assess work-related issues and problems” (ref: World Economic Forum, 2018, p.29)
- “advanced cognitive capabilities, such as logical reasoning” (ref: The Conference Board of Canada, 2020, p.9)
- “ordering facts and concepts logically” in writing (ref: Lowden et al., 2011, p.6)
- As part of “Effective Communication” definition: “Active listening;

Questioning...” (ref: Raybould & Sheedy, 2005, p.8)

- “reflect and engage in more complex thinking patterns” (ref: OECD, 2015, p.36)
- “The skills needed for work, learning and life, including [...] thinking” (ref: Institute for Competitiveness and Prosperity, 2017, p.24)
- “essential skills [considered] to be the foundation for all other skills [include] thinking skills” (Braham & Tobin, 2020, p.5)
- “Thinking and solving problems – creativity, reflecting on and learning from own actions, prioritising, analysing situations, and developing solutions” (ref: Lowden et al., 2011, p.6)

For the purpose of this study, critical thinking is understood as what is done with the information once one has comprehended and assessed it, i.e. as a process that is complementary to analytical thinking and not identical to it. In the literature, this was described in terms of constructing and defending arguments, and using logic. The “critical” aspect of critical thinking is generally understood to be what happens when an individual is capable of challenging and questioning information or positions in a productive way.

## INTEGRITY

3 occurrences, ‘integrity’ verbatim: Conference Board of Canada, 2020, p.3; 11.

Expressions interpreted as equivalent:

- “the ability to connect choices and actions to ethical decisions” (ref: Hart Research Associates, 2013, p.8)

- “reflective about themselves and what they want out of the job” (ref: Lowden et al., 2011, p.17)
- “reflecting on and learning from own actions” (ref: Lowden et al., 2011, p.6).
- “showing value and respect” (ref: Cukier et al., 2015, 8-9)
- “Demonstrating that they can take responsibility” (ref: Lowden et al., 2011, p.17)
- “exercising democracy, such as negotiating, teamwork and taking responsibility” (ref: OECD, 2015, p.84)
- “conscientiousness (to be responsible, perseverant and reliable)” (ref: OECD, 2015, p.68)
- “be socially responsible and contribute to your community” (ref: Conference Board of Canada, 2020, p.3)
- “being responsible to others” (ref: Lowden et al., 2011, p.6)

While occurrences of the concept are comparatively less frequent, we included integrity as a distinct category because it points to an important aspect of human behaviour in organisational context, one whose role is directly connected to social and emotional intelligence, but which is not often discussed. Our hypothesis is that if employers were polled on the importance of integrity, they would place it at the top of the list, as a skill or personal quality all employees are expected to have as a matter of course. The quotes that were taken as expressions of integrity include reference to taking responsibility, showing respect, and making ethical choices in deontological contexts.

## INTERCULTURAL AWARENESS

4 occurrences, ‘intercultural skills’ (or ‘awareness’ or ‘sensitivity’) and cognates: Hart Research Associates, 2013, p.6; Cukier et al., 2015, pp.8-9, 24; British Council, 2014, p.4.

Expressions interpreted as equivalent:

- “by learning about the history, culture [...] students develop [...] a global perspective” (ref: Edge et al., 2018, p.27)
- “Knowledge of different [...] ways of thinking, customs, practices and their impact on human culture” (ref: Oschinski & Wyonch, 2017, p.10).
- “Civic knowledge, civic participation” (ref: Hart Research Associates, 2013, p.8)
- “Ability to operate in different cultural settings” (ref: Davies et al., 2011, p.9)
- “a strong need for non-technical skills, including [...] cultural adaptability” (ref: Cukier et al., 2015, p.11)
- “consider how different cultural contexts may affect how individuals react” (ref: British Academy, 2017, pp.22-23)
- “increased cultural competencies” (ref: The Conference Board of Canada, 2020, p.5)
- “cultural competence encompasses respect for different cultural practices...” (ref: The Conference Board of Canada, 2020, p.12)
- “increasing demand for [...] cultural competence...” (ref: The Conference Board of Canada, 2020, pp.2, 6)
- “knowledge about cultural diversity” (ref: Hart Research Associates, 2013, p.8)
- “Accommodate diverse views [...] and backgrounds” (ref: The Conference Board of Canada, 2020, p.11)
- “tolerance for diversity” (ref: OECD, 2015, p.96)
- “recognize and respect people’s diversity” (ref: The Conference Board of Canada, 2020, p.4)

The literature clearly indicates that intercultural awareness is believed to be an important skill, and our analysis show this to include awareness or

knowledge of different cultures and the way it is applied to one's own behaviour through respect for diversity and accommodation. Intercultural awareness is seen to be connected to self-management: individuals are expected to properly moderate their behaviour in light of cultural differences. People skills were also strongly connected to intercultural awareness: intercultural awareness is believed to allow for smoother accommodation and positive interactions with others. This is the reason why we considered civic knowledge and participation (Hart Research Associates, 2013, p.8) to require intercultural awareness, that is, awareness of a larger perspective (one's own culture and others in their civic sphere) and positive interaction within a group in light of that awareness.

## JUDGEMENT

Expressions interpreted as equivalent:

- "writing clearly and in a way appropriate to the context" (ref: Lowden et al., 2011, p.6)
- "Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things" (World Economic Forum, 2018, pp.12, 29)
- "abstract, complex decision-making skills" (ref: Oschinski & Wyonch, 2017, p.15)
- "make decisions without requiring managerial input" (ref: Oschinski & Wyonch, 2017, p.16)
- "Understanding the implications of new information for both current and future problem-solving and decision-making" (ref: World Economic Forum, 2018, p.29)
- "skills that empower individuals to [...] make decisions" (ref: OECD, 2015, p.24)

- “weigh, and manage risk” (ref: Conference Board of Canada, 2020, p.3)
- “a general level of savvy-ness and street smart” (ref: Lyonette et al., 2017, p.55)
- “Sensemaking - ability to determine the [...] significance of what is being expressed” (ref: Davies et al., 2011, p.8)
- “ability to sense and respond to new contexts” (ref: Davies et al., 2011, p.9)
- “reflect on taken-for-granted ‘answers’ to problems and value assumptions” (ref: British Academy, 2017, p.24)

Although ‘judgement’ is not a term we found in the literature, reference was made to a type of capacity that needed its own rubric, namely the capacity to act with intelligence or make the judicious choice in communication and/or decision-making situations. The ability to “exercise judgement” is involved in negotiating values and in determining an appropriate course of action, and this capacity for “good decision-making” is a skill employers universally desire in their employees. This connects directly to risk-management: one needs sound judgement in situations where stakes are high.

Although the ability to reliably make ethical choices is connected to judgement, they also track integrity to a greater degree. We included the relevant quotes under the latter rubric.

## PEOPLE SKILLS

2 occurrences ‘people skills’ verbatim: Canadian Council of Chief Executives, 2014, p.7; Burning Glass, 2015, p.7.

Expressions interpreted as equivalent:

- “Ability to connect to others in a deep and direct way” (ref: Davies et al., 2011, p.8)

- “deal with people [...] with honesty, integrity, and personal ethics; recognize your own and other people’s good efforts; [...] show interest” (ref: Conference Board of Canada, 2020, p.3)
- “Technology like AI puts a premium on human skills like empathy...” (ref: Young Entrepreneurs' Alliance, 2018, p.13)
- “By [leaders...] providing guidance, and acting with [...] empathy” (ref: The Conference Board of Canada, 2020, p.11)
- “It requires a curious, empathetic, and compassionate outlook on the diverse experiences of other people.” (ref: The Conference Board of Canada, 2020, p. 12)
- “soft skills around related to customer interactions, including expressions of empathy and being resourceful in addressing client problems” (Cuckier, 2020, p.24)
- “Interpersonal skills [...] are related to intrinsic personality traits such as self-other orientation and agreeableness, while also being made up of soft skills” (ref: Cukier et al., 2015, pp.8-9)
- “inter- and intra- personal competencies - the skills used to interact with others as well as self-manage - will come to play an increasingly important role” (ref: Institute for Competitiveness and Prosperity, 2018, p.9)
- “Strong interpersonal skills, managing different stakeholders...” (ref: Lyonette et al., 2017, p.55)

- “In-demand skills in Canada include leadership...” [ref: The Conference Board of Canada, 2020, p.6]
- “Key soft skills for recent graduates include “non-cognitive capabilities which are needed across all professions. These include [...] Negotiation” [ref: World Economic Forum, 2020, p.12]
- “skills necessary for exercising democracy, such as negotiating...” [ref: OECD, 2015, p.84]
- “leverage these media for persuasive communication” [ref: Davies et al., 2011, p.10]
- “Persuading others to change their minds or behaviour” [ref: World Economic Forum, 2018, p.30]
- “relationship-building skills” [ref: Business Council of Canada, 2020, p.11]
- “Occupations requiring high levels of skills that require adaptability to novel situations or that involve social components” [ref: Oschinski & Wyonch, 2017, p.10]
- “Socio-emotional intelligence involves [...] social perceptiveness, persuasion, negotiation, and service orientation” [Accenture, 2018, p.15]
- “roles increasingly require creativity and socio-emotional intelligence...” [ref: Young Entrepreneurs' Alliance, 2018, p.22]
- “require a wide-ranging set of social and emotional abilities” [ref: World Economic Forum, 2018, p.6]
- “Emotional intelligence [...] and social influence as well as service orientation also see an outsized increase in

demand relative to their current prominence” (ref: World Economic Forum, 2018, p.12)

- “social and emotional proficiency will equip students to succeed” (ref: World Economic Forum, 2016, p.4)
- “evidence suggests that [...] sociability [...] can be particularly important drivers of lifetime success” (ref: OECD, 2015, p.68)
- “sociability and friendliness” (ref: Lyonette et al., 2017, p.54)
- “social and emotional skills, such as [...] social skills” (ref: OECD, 2015, p.84)
- “a general level of [...] street smart” (Lyonette et al., 2017, p.55)
- “social and emotional skills, such as the ability to [...] work with others” (ref: OECD, 2015, p.32)
- “The skills needed for work, learning and life, including [...] working with others...” (ref: Institute for Competitiveness and Prosperity, 2017, p.24)
- “Comfortable working with colleagues, customers, and/or clients from diverse cultural backgrounds” (ref: Hart Research Associates, 2013, p.6)

Some of the references made to the capacity to “work with others” were included under this category even if they can also be understood to describe aspects of “teamwork”, which we understand as a different type of skill, namely capacities that can only come to bear when individual work in “teams” or “groups” in genuinely collaborative contexts.

Occurrences of the term ‘people skills’ itself are not very frequent and indeed less so than are occurrences of ‘socio-emotional skills’, but they both are used to refer to baskets of skills which make it easy for individuals to connect with other people. These are the skills involved, for instance, when a person is able to form positive connections with others in ways that

evidence empathy. Interestingly, the literature often connects people skills to negotiation and persuasion: those with people skills know how to use their ability to connect and to influence those around them. This association between people skills, negotiation, and persuasion explains why “leadership” also features prominently within this category.

## PROBLEM-SOLVING

32 occurrences of ‘problem-solving’ verbatim and cognates: U.S. Department of Labor, 2010, p.98; World Economic Forum, 2016, p.4; The Conference Board of Canada, 2020, pp.11, 12; Cukier et al., 2015, pp.6, 8, 10, 11, 24; Weingarten et al., 2018, p.16; Institute for Competitiveness and Prosperity, 2018, p.11; World Economic Forum, 2018, pp.4, 12, 29; Business Council of Canada, 2020, pp.1, 12, 24; The Conference Board of Canada, 2020, pp.2, 6, 9; Future Skills Council, 2020, p.13; Weingarten et al., 2018, pp.10, 16; OECD, 2015, p.27; Institute for Competitiveness and Prosperity, 2018, pp.9, 10, 12; Finnie et al., 2018, p.8; Lowden et al., 2011, p.6; New Zealand Government, 2020; Conference Board of Canada, 2020, p.2.

Expressions interpreted as equivalent:

- “solving the challenges which their subject presents” (ref: British Academy, 2017, p.25)
- “critical awareness allows them to reflect on taken-for-granted ‘answers’ to problems and value assumptions. The conclusions drawn are evidence-based” (ref: British Academy, 2017, p.24)
- “identify problems and respond in value-adding ways.” (ref: Oschinski & Wyonch, 2017, p.16)
- “being resourceful in addressing client problems” (ref: Cuckier, 2020, p.24)
- “coming up with solutions” (ref: Davies et al., 2011, p.9)
- “develop creative solutions to complex challenges” (ref: Phelps, 2014, p.3)

- “find solutions to novel problems” (ref: OECD, 2015, p.36)
- “be able to solve unstructured problems” (ref: World Economic Forum, 2016, p.6)
- “ability to solve complex problems” (ref: Institute for Competitiveness and Prosperity, 2018, p.18)

Quotes about problem-solving often included both the ability to identify the problem, and that of solving it. Noticeably, the skill most frequently associated with problem-solving was creativity. Employers seem to think that strong problem-solving skills require the skill to “think outside the box”.

## SELF-MANAGEMENT

1 occurrence of ‘self-management’ verbatim and cognates: Institute for Competitiveness and Prosperity, 2018, p.9.

Expressions interpreted as equivalent:

- “related to the category ‘managing emotions’ include self-confidence, self-esteem and independence” (ref: OECD, 2015, p.96)
- “conscientiousness, sociability and emotional stability” (ref: OECD, 2015, pp.13-14)
- “social and emotional proficiency” (ref: World Economic Forum, 2016, p.4)
- “High levels of emotional intelligence” (ref: Cukier et al., 2015, pp.8-9)
- “Social and Emotional competencies are increasingly critical to labour market outcomes” (ref: Institute for Competitiveness and Prosperity, 2018, p.18)
- “the future will require ‘more social and emotional skills and more advanced cognitive capabilities, such as logical reasoning and creativity”

(ref: The Conference Board of Canada, 2020, p.9)

- “a wide-ranging set of social and emotional abilities” (ref: World Economic Forum, 2016, p.6)
- “the ability to pursue long-term goals” (ref: OECD, 2015, p.32)
- “achieving goals, working with others and managing emotions” (ref: OECD, 2015, p.68)
- “ability to work with a team, [...] goal setting, motivation, project planning” (ref: Cukier et al., 2015, p.9)
- “Capable of independent work” (ref: Lowden et al., p.17)
- “work independently” (ref: Conference Board of Canada, 2020, p.3)
- “show interest, initiative, and effort” (ref: Conference Board of Canada, 2020, p.3)
- “social and emotional skills such as [...] initiative” (ref: World Economic Forum, 2016, p.6)
- “able to motivate themselves” (ref: British Academy, 2017, p.25)
- “sense of responsibility, autonomy and diligence” (OECD, 2015, 96)
- “organisation [...] of information from multiple sources” (ref: Hart Research Associates, 2013, p.8)
- “organisational skills, project management” creative thinking/entrepreneurship/innovation , and ethical reasoning” (ref: Cukier et al., 2015, p.24)
- “...thrive in a highly dynamic and skill-driven labour market by persevering and working hard.” (ref: OECD, 2015, p.27)
- “relevant skills, such as [...] perseverance, capacity to work in a team and self-confidence” (ref: OECD, 2015, pp.101-102)

- “Social and emotional skills such as perseverance, emotional stability” (ref: OECD, 2015, p.24)
- “take personal responsibility for one’s own lifelong learning and career development” (ref: World Economic Forum, 2018, p.23)
- “Plan, design, or carry out a project or task from start to finish” (ref: Conference Board of Canada, 2020, p.4)
- “prioritising, analysing situations, and developing solutions” (ref: Lowden et al., 2011, p.6)
- “proactive and receptive approach to challenges” (ref: British Academy, 2017, p.25)
- “they can also bring [...] resiliency to the workplace” (ref: Business Council of Canada, 2020, p.1)
- “Resiliency is about being flexible, coping with unexpected stressors” (ref: Conference Board of Canada, 2020, p.12)
- “being resourceful” (ref: Cuckier, 2020, p.24)
- “an awareness of the impact of emotion and individual experience on one's beliefs” (ref: Cukier et al., 2015, p.8)
- “If tomorrow's jobs will require more social and emotional skills - increased cultural competencies, interpersonal and relationship building skills, self-awareness, and empathy - then all Canadians will need SES tools...” (ref: The Conference Board of Canada, 2020, p.5)
- “self-control, perseverance, social skills, emotion regulation and sympathy” (ref: OECD, 2015, p.84)
- “responsibility for their own development” (ref: Lowden et al., 2011, p.17)

- “assess personal strengths and areas for development” (ref: Conference Board of Canada, 2020, p.3)
- “skills targeted in the framework include [...] a sense of self-discipline” (ref: OECD, 2015, p.99)
- “motivated to improve and develop themselves” (ref: Lyonette et al., 2017, p.54).
- “abilities to [...] self-regulate, believe in oneself” (ref: OECD, 2015, p.85)
- “ability to assess one’s own strengths and weakness [...] an ability for self-reflection” (ref: British Academy, 2017, p.26)
- “Reflective about themselves” (ref: Lowden et al., 2011, p.17)
- “Socio-emotional Intelligence [...] is increasingly relevant” (ref: Young Entrepreneurs’ Alliance 2018, p.14).
- “an ability to sense and respond to new contexts” (ref: Davies et al., 2011, p.9)
- “You get to work on time every day” (ref: New Zealand Government, 2020)
- “set goals and priorities balancing work and personal life; plan and manage time, money, and other resources to achieve goals” (ref: Conference Board of Canada, 2020, p.3)
- “strengthens an individual’s time management skills” (ref: Edge et al., 2018, p.27)
- “The ability to develop a well thought out solution within a reasonable time frame” (ref: U.S. Department of Labor, 2010, p.98)

Given the frequency with which it is evoked, self-management should be understood to be a top desideratum in employment context. Self-management includes managing one’s own emotions, but also one’s time, goals, motivation, growth, organisation and independence, for instance. Self-management is often described in connection to emotional

intelligence: emotional intelligence is seen as an ingredient of self-management, but emotional intelligence alone does not adequately capture the type of competence employers describe which requires the development of higher levels of literacy and metacognitive toolkits. An individual is capable of self-management when they can pay attention to their own experiences (strengths and weaknesses etc.), identify areas for improvement, set goals and fulfil those goals even in light of setbacks (i.e., resiliency). In broad strokes, self-management has to do with being aware of oneself, and being capable of regulating those aspects as needed to achieve one's purpose.

## TEAMWORK

11 occurrences of 'teamwork' verbatim: Hart Research Associates, 2013, p.8; Raybould & Sheedy, 2005, p.262; British Academy, 2017, pp.22-23; Business Council of Canada, 2020, pp.1, 11, 15; Cukier et al., 2015, pp.11, 24; Pizarro et al., 2019, p.13; Future Skills Council. 2020, p.13; OECD, 2015, p.84.

Expressions interpreted as equivalent:

- "They must be adept at collaboration" (ref: World Economic Forum, 2016, p.4)
- "group work focuses not only on mastering academic material but also on how well students collaborate" (ref: World Economic Forum, 2016, p.6)
- "Working together and communicating – co-operating" (ref: Lowden et al., 2011, p.6)
- "skills related to [...] 'working with others' include respect for others, co-operation and a sense of solidarity" (ref: OECD, 2015, p.96)
- "Understand and work within the dynamics of a group; ensure that a team's purpose and objectives are clear" (ref: Conference Board of Canada, 2020, p.4)
- "skilled at working with teams" (ref: Cukier et al., 2015, p.9)

- “Communication in teams” (ref: Raybould & Sheedy, 2005, p.262)
- “work effectively in teams” (ref: The Conference Board of Canada, 2020, p.3)

Quotes associated with teamwork are those that explicitly refer to groups, teams, and instances where work is done collaboratively. In this sense, the difference between teamwork and people skills is that teamwork connotes cooperation and collaboration, while people skills does not. Nonetheless, we observed strong connections between these two skills.

## ORGANISATIONAL-LEVEL DRIVERS

### INNOVATION AND ADAPTABILITY

The notion of ‘innovation’ is generally used as a framing device to describe the value and use of a number of foundational skills. These include consistently (but not exclusively): critical thinking, creativity, problem-solving, the capacity for continuous learning, and analytical skills. It is also unfailingly cited as an overarching concern by employers.<sup>1</sup> The Hart Institute reports that 95% of employers surveyed in over 300 organisations with at least 25 employees in the USA say they “give hiring preference to college graduates with skills that will enable them to contribute to innovation in the workplace.”<sup>2</sup>

While ‘innovation’ itself is rarely defined explicitly – we take its meaning very broadly and literally to be the process of creating something new, whatever that is – employers emphasise its importance, as well as the importance of individuals having skills such as critical thinking, problem-solving, adaptability and creativity in the broader context of innovation.<sup>3</sup>

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<sup>1</sup> Hart Research Associates. (2013). *It takes more than a major: Employer priorities for college learning and student success*. Liberal Education, 99(2).

<sup>2</sup> Ibid.

<sup>3</sup> Irish Jobs. (2019). [Critical Thinking Skills in the Workplace](#).

Innovation is also connected with the capacity to address and solve complex problems.<sup>4</sup> Employers are looking for “graduates who show nimbleness – the ability to navigate challenging, ambiguous environments.”<sup>5</sup> In a competitive labour market, job candidates who can demonstrate these traits are more likely to be hired and, over time, singled out for promotion.<sup>6</sup>

While the term ‘adaptability’ is sometimes cited as an individual competency (we understood it to connote continuous learning), it is more relevantly understood as an organisational feature that is key to success in a context where industry and society face ever more frequent disruption. The skills on which adaptability is seen to depend, or with which it is correlated are also similar to the individual skills associated with innovation: critical thinking, creativity, good problem-solving, the capacity for continuous learning, and analytical skills. For this reason, we take innovation and adaptability to be complementary aspects of the same type of success-driving organisational-level behaviours.

## **ETHICAL, SOCIAL AND EMOTIONAL INTELLIGENCE (AND LEADERSHIP)**

According to the Business Council of Canada, the skills most directly associated with access to mid-level jobs – and thus the one most important to individuals in non-entry level employment – fall under the heading “social and emotional intelligence.”<sup>7</sup> In the literature, these skills often overlap with those stakeholders associate with integrity and the capacity to make principled decisions, i.e. what we call judgement. They are sought after by employers looking to fill positions requiring greater experience and education, but it is hard to imagine that they would not be important for entry-level jobs as well.

Social and emotional intelligence is generally believed to play an important role in “effective leadership.”<sup>8</sup> What leadership is supposed to amount to, however is unclear. Leadership is often understood to be a trait of individuals and understood “as baskets of skills including strategic vision,

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<sup>4</sup> The British Academy. (2017). [\*The Right Skills: Celebrating Skills in the Arts, in the Humanities and Social Sciences\*](#).

<sup>5</sup> *Developing Canada’s Future Workforce*. Business Council of Canada & Aon Hewitt. 2016. 5.

<sup>6</sup> Ibid.

<sup>7</sup> Royal Bank of Canada. (2018). *Humans Wanted: The future of work and how it’s not what you think*, p.4.

<sup>8</sup> US Department of Labour (2010). *Soft Skills to Pay the Bills—Mastering Soft Skills for Workplace Success*.

motivation, management, resilience, and decision-making.”<sup>9</sup> In this context, interestingly, strategic vision, motivation and resilience are sometimes understood as “personal traits,” that is, as individual qualities that are unlikely to be acquired or developed as part of training and are difficult to include among other learning objectives. Whether or not this is correct is open for debate.

More importantly, the capacity that transpires from these and other descriptions of “leadership” is more accurately understood as a desirable feature of organisations in which management is successful. But this cannot be a mere function of the skills of individual managers. “Leadership” is what is at work when projects are given the right direction, when organisations smoothly sustain momentum, leveraging output to generate impact, navigating complex scenarios, all the while prioritising tasks, and coordinating teams in a way that fosters innovation.<sup>10</sup> But one single individual cannot succeed in achieving such results without the support of a team that also has the required amount of social and emotional intelligence to understand these scenarios and priorities. What this means is that successful leadership can only exist where all individuals within an organisation have the skills associated with social and emotional intelligence and where individual attitudes and behaviours reflect the cultivation of ethical, social and emotional intelligence as a priority.” It is important to stress that whatever is needed for an organisation to realise the conditions associated with “good leadership, skilled individuals are not enough and the organisation itself needs to support its members with the appropriate organisational infrastructures, including favourable managerial and organisational cultures.<sup>1</sup>

While this is not something that is emphasised in the literature, skills associated with social, emotional and ethical intelligence are absolutely crucial to fostering equity in a diverse and inclusive workplace. And this would deserve research and treatment of its own.

## **ADDENDUM ON EFFECTIVE COMMUNICATION**

While we decided to depict effective communication as a single skills-group that includes oral expression, active listening, information sharing, and effective presenting of ideas, these overlapping competencies are highly

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<sup>9</sup> Business Council of Canada (2016). *Developing Canada's future workforce: a survey of large private-sector employers*. Ottawa: Business Council of Canada and Aon Hewitt. p.5

<sup>10</sup> K. Lowden, S. Hall, D. Elliot, & J. Lewin. (2011). *Employers' perceptions of the employability skills of new graduates*. London: Edge Foundation.

valued. When polled, a majority of employers rank the skills associated with effective communication and collaboration as the most important. The literature shows overlap between the skills associated with effective communication and those associated with the collaborative aspects of social and emotional intelligence, but it is unclear why. One difference is that while individual skills that make for social, emotional and ethical intelligence are seen to be required mainly of future managers, the skills associated with effective communication are overwhelmingly seen to be required of all employees, regardless of their potential for management and leadership.

It's surprising that connections between social, emotional and ethical intelligence and communication are not more pronounced. Arguably, the ability to speak, write and actively listen, on the one hand, and the ability to coordinate, compromise and relate to others, on the other, are intertwined key talents. However, when employers are concerned with leadership, communication skills are invoked with as high an emphasis as the individual's ability to manage and cultivate healthy social and emotional attitudes and relationships.

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<sup>1</sup> T. Kenyon & G. Beaulac. (2014). "Critical Thinking Education and Debiasing," *Informal Logic*, Vol. 34 (4), pp. 341-363.