Having knowledge is not the same as being able to apply it. Having a skill means having the ability to do something well. Having a skill requires knowledge, but having knowledge does not necessarily imply having skills. Knowing how a wind turbine works does not mean a person has the skill to fix one.

**Skills are multidimensional, dynamic, and interactive**

Promoting a breadth of skills means “educating for a mastery of a wide range of competencies that will help mitigate the challenges posed by our changing world context.” This Report uses three broad categories of skills (figure S3.1):

Cognitive skills refers to the “ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought.” Cognitive skills are needed for learning, personal and professional development, and the development of other types of skills. They can be broken down into foundational skills—which include basic literacy, numeracy, critical thinking, and problem-solving—and higher-order skills such as more advanced versions of these cognitive skills and others like adaptive learning.

Socioemotional skills are the behaviors, attitudes, and values that a person needs to “navigate interpersonal and social situations effectively,” as well as to “deal effectively and ethically with daily tasks and challenges.” Self-awareness, leadership, teamwork, self-control, and motivation are socioemotional skills. Sometimes referred to as noncognitive skills, socioemotional skills include so-called personality traits, which reflect enduring patterns in how individuals respond to various situations. Socioemotional skills are transversal skills, meaning they are relevant to a broad range of disciplines. They work together with cognitive skills, in that success in meeting many workplace and life challenges depends on both types of skills.

Technical skills are the acquired knowledge, expertise, and interactions needed by a worker for competent performance of the duties associated with a specific job. Technical skills require mastery of the knowledge, materials, tools, and technologies needed to do a job.

Cognitive skills and socioemotional skills reinforce each other. Individuals with characteristics such as drive, diligence, perseverance, or good social skills are more likely to apply themselves to acquiring cognitive skills, as well as to have positive relationships in their lives. Yet cognitive skills are distinct from socioemotional skills. Acquiring an early solid base of both is critical because both set the course of lifetime trajectories. Individuals with early advantages tend to gain more skills over their lifetimes, and it is difficult for others to close widening gaps over time.

**Skills can be acquired**

Different types of skills can be developed over time, depending on an individual’s neurobiological and psychological development.

Most cognitive skills are acquired during childhood, but they can be reinforced through young adulthood. Early childhood is an optimal period to acquire foundational cognitive skills because they are a prerequisite to developing further cognitive and socioemotional skills during later developmental periods.
Higher-order cognitive skills are regularly developed in late adolescence and early adulthood, in parallel with technical skills that are relevant for the labor market. Given the ages that correspond to optimal skills development periods, foundational cognitive skills are usually learned in school and at home.

Similarly, socioemotional skills can be acquired through adulthood, though the best stage to reinforce them is in early adulthood. But unlike cognitive skills, certain socioemotional skills—such as self-esteem, positive identity, or leadership—are better acquired in middle childhood and during adolescence. Even though the neurobiological and psychosocial bases are already well established at this stage, socioemotional skills can also be learned well during early adulthood through new experiences.

Technical skills can be learned at ages and in settings that correspond to the fields of study or jobs that a person chooses. Thus these skills can be acquired throughout life, in school and the workplace, as well as through specific training and education.
Notes

2. For a discussion of alternative definitions of the term skills, see Green (2011) and Warhurst and others (2017).
5. Guerra, Modecki, and Cunningham (2014, 5).
7. Duckworth and Yeager (2015); Durlak and others (2011); John and DeFruyt (2015); Kautz and others (2014); Payton and others (2008).
15. Handel and others (2016).

References


