

# Chapter 6

## Essential Skills for the 21st Century Workforce

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### **ABSTRACT**

*This chapter contends that increasing technological innovation has disrupted and continues to disrupt the labor markets making some jobs obsolete and workers redundant. The key to success in the twenty-first century and future labor markets is to combine hard and soft skills into a comprehensive package tailored to specific needs including the ability to think clearly about complex problems, apply creative and innovation solutions to solve problems, and apply new knowledge and skills in new settings. This chapter will provide a discussion of some of the reasons underlying the demand for higher workforce skills and a descriptive overview of curricula and pedagogy that promote students' acquisition and application of critical thinking skills as well as other skills considered essential for 21st century workforce.*

### **INTRODUCTION**

Global connectivity, automation, technological innovations, and new media are some of the forces leading disruptive shifts in the workforce landscape (Davies, Fidler, & Gorbis, 2011). Other factors linked to the increased interest in skills and innovation include rising educational attainment, skill shortages, demographic change, globalization and competition (Toner, 2011). Coupled with these changes are ongoing goals of achieving financial stability, economic growth, and higher living standards. Despite the many paths followed to achieve these goals, most experts agree that foreign direct investment, technology, strong institutions, sound macroeconomic policies, an educated workforce, and a vibrant market economy are basic principles that promote greater prosperity (International Monetary Fund, 2008).

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Our increasingly interconnected and interdependent global society mandates that students be educated to develop habits of the mind that embrace tolerance, a commitment to cooperation, an appreciation of our common humanity, and a sense of responsibility, all key elements of global competence (National Education Association, 2010). Moreover, increased global interconnectivity puts diversity and adaptability at the center of organizational operations (Davies et al., 2011). Individuals therefore, need to be able to navigate the rapidly changing landscape and skill requirements to be successful in today's workspace. Growth in global markets has also helped promote efficiency through competition and a diversified labor force (International Monetary Fund, 2008; Toner, 2011). Increased globalization and economic competition signal an increased need for workforce skills that are above competitors' skills (Ascione, 2017), as new smart machines and information technology simultaneously radically change the nature of work and the workforce (Bessen, 2015). There is substantial variation in the conception of skills and tasks required to deal with these new technologies and the pace of innovation across different occupations (Toner, 2011).

Despite the variation in proficiencies and abilities required across different jobs, work readiness skills should include both foundational cognitive skills such as reading, applied mathematics, problem solving and critical thinking skills as well as non-cognitive skills or soft skills, defined as personal characteristics and behavioral skills that enhance an individual's interactions, job performance, and workplace discipline (Davies et al., 2011; Nedelcu, 2017). Understanding what individuals need to effectively navigate various transitional points along the school to career continuum is critical to maintaining the steady talent pipeline that any country requires to be competitive in a rapidly changing global economy (Clark, 2013; Pearson, 2017).

Preparing students for adulthood has been an iterative process in ongoing educational reforms (Hopson, Simms, & Knezek, 2002). Most of these reforms have been influenced by the social, economic and political climate. For example, there has been a steady decline in manufacturing jobs beginning in the latter part of the 20th century and into the early 21<sup>st</sup> century transitioning the U. S. to a more knowledge-based economy, with growth in high-technology industries and a highly skilled workforce (Kiener, Ahuna, & Tinnesz, 2014). The rapidly changing work environment has led to an emphasis on universities chronicling evidence of their graduates' preparedness for the world of work. According to the Association of American Colleges and Universities survey of employers, many companies are seeking candidates who possess excellent communication and teamwork skills as well as a demonstrated ability to think critically and solve complex problems (Hart Research Associates, 2015). Critical thinking abilities are an essential quality both in private and in professional and civic life (Nedelcu, 2017). Through critical thinking, individuals are able to apply purposeful self-regulatory judgment that gives reasoned consideration to evidence, contexts, conceptualizations, methods, and criteria (Cone, Godwin, Salazar, Bond, Thompson, & Myers, 2016).

This chapter will provide a discussion of some of the reasons underlying the demand for higher workforce skills and a descriptive overview of curricula and pedagogy that have promoted students' acquisition and application of critical thinking skills as well as other skills considered essential for today's workforce as reported in current literature. The ability to think clearly about complex problems, apply creative and innovation solutions to solve problems, and apply new knowledge and skills in new settings (Kiener et al., 2014).

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