Chapter 5
Cognitive Skills Development at Higher Educational Level in the Fourth Industrial Revolution: A Case for Creativity

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ABSTRACT

To compete in the workplace of the Fourth Industrial Revolution, cognitive skills development is critical. The traditional education system is not geared to prepare students for the demands of the future workplace and the disruptions of the Fourth Industrial Revolution and beyond. The objective of this chapter is to explore the development of cognitive skills in higher education with a specific focus on creativity. The chapter explains that higher education institutions need to place greater emphasis on developing cognitive skills and different types of intelligences to meet the demands of the future workplace. Fostering creativity is particularly important in this regard. The chapter presents two ways of assessing creativity and three techniques to develop this key skill in students. The author used qualitatively summarized evidence on the topic using informal and subjective methods to collect and interpret studies and secondary data.

DOI: 10.4018/978-1-5225-9188-7.ch005
INTRODUCTION

Suri (2018, p. 1) believes that “we are on the cusp of not just a technological revolution, but a productivity revolution. It will bring benefits for people everywhere, make our planet more sustainable, and provide new opportunities for businesses of all kinds”. To compete in the Fourth Industrial Revolution, cognitive skills development is critical to enable people to deal with the constantly changing and complex digital environment caused by disruptive technologies and sophisticated machine-intelligence (Kaldero, 2019). Business managers are expected to navigate organizations through this unknown territory, develop inventors and problem solvers and ensure that organizations remain flexible, profitable and sustainable. The education system plays a key role in preparing business managers for this difficult task.

In most countries, the traditional education system is not geared to prepare students for the challenges and disruptions of the Fourth Industrial Revolution and beyond. Traditional colleges and universities, for example, have has no serious competition until disruptive technologies created alternative business models for these institutions (Christensen & Eyring, 2011). In addition to this new threat, the World Economic Forum, cited in Soffel (2016), maintains that students need 21st century skills which can be divided into (1) functional literacies (referring to how students apply core skills to everyday tasks); (2) competencies (referring to how students approach complex challenges, and specifically, their cognitive skills); and (3) character qualities (referring to students’ approach to their changing environment). Traditional fields of study in silos do not provide the kind of new thinking students will need to thrive in the Fourth Industrial Revolution. Higher education institutions are therefore expected to become more innovative and engaging (Christensen & Eyring, 2011) to instill passion and curiosity and to develop higher cognitive skills in their students. Institutions will also need to reskill and upskill managers and employees, as well as creating new skills, to enable organizations to leverage technology and improve customer service, profitability and competitiveness.

Higher education plays a crucial role in the development of business people, and especially business managers. Business schools focus on preparing future (next-generation) business leaders who can deal with complex societal challenges (Muff, 2013). There has, however, been a shift in expectations, with higher education institutions and business schools placing greater emphasis on the development of students’ cognitive skills and intelligence to prepare them for the Fourth Industrial Revolution and beyond. Graduates who become managers or employees now need to be imaginative, creative and responsible to thrive in the future workplace.

The objective of this chapter is to explore the development of cognitive skills at higher educational level with a specific focus on creativity as a cognitive skill. To achieve this objective, the following secondary objectives were set: (1) to motivate
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