The Use of Design Thinking to Develop Corporate Skills and Competencies

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INTRODUCTION

Design thinking is a methodology for proposing creative and innovative solutions for problems that use the mindset of the designers (IDEO, 2019). The Bootcamp Bootleg (Doorley, Holcomb, Klebahn, Segovia & Utley, 2018), produced at Stanford University, suggests the following steps for design thinking: empathize, define, ideate, prototype, and test.

Corporate training usually aims to develop critical analytical skills and competencies, such as analytical thinking, decision making, problem-solving, leadership, and strategic thinking. However, 21st-century holistic and intuitive skills are also required in management today, such as communication, creativity, innovation, and empathy.

Design thinking roots are business and design, and its application to the area of education is recent. Scheer, Noweski and Meinel (2012), for example, claim that John Dewey's ideas are not enough to overcome the difficulties of teaching complex phenomena in a holistic and constructivist way. They compare the methodology proposed by Dewey to design thinking, arguing that the latter can offer concrete recommendations to approach a complex phenomenon without the excess of abstractions.

The objective of this chapter is to discuss how design thinking, combined with information and communication technologies (ICTs), can be used to promote 21st-century skills and competencies in the corporate environment.

No previous literature review on the subject was identified. A literature review was the conducted following Okoli's (2015) guidelines for a standalone systematic literature review, including eight steps: identify the purpose, draft protocol and train the team (two scholars), apply practical screen (screening for inclusion), search for literature, extract data, appraise quality (screening for exclusion), synthesize studies (analysis), and write the review.

Google Scholar was the database used for the search. The choice for a single database is justified by results such as those presented by Harzing and Alakangas (2016), who compared Google Scholar with two other recognized databases: Scopus and Web of Science. The authors concluded that all three offer stability and enough search coverage, but Google Scholar outperforms others by criteria such as the number and growth of publications, and the number of citations, thus providing more comprehensive coverage.

The query for the search was:

competencies OR competences OR skills OR skill "Design Thinking"

The search was conducted on August 14, 2018, with 42 initial results. Four titles were repeated and five unavailable. All the 33 reaming texts were included in a Google Drive Sheet, where the data

extraction was performed. Coding and categorizing followed the competences and skills frameworks indicated in this chapter.

BACKGROUND

After the 1990s, the world entered a new phase of globalization. For Grundke, Jamet, Kalamova, Keslair and Squicciarini (2017), information and communication technologies, trade liberalization, and lower transportation costs have enabled companies and countries to segment the production process into global value chains (GVCs). Various products are designed in one country, but assembled in another country, from parts manufactured in several countries. Thus, 30% of the value of OECD (Organization for Economic Cooperation and Development) exports comes from abroad.

According to Ismail (2014), the average life of an S&P company fell from 67 years a century ago to only 15 years in 2014, and 40% of Fortune 500 companies would cease to exist in 10 years. Competition from many of the US Fortune 500 companies is not coming from China and India but a new generation of organizations leveraging exponentially growing technologies. Moore's Law and Kurzweil's Law of Accelerated Returns can explain the constant and extraordinary pace of change that organizations are facing today (Ismail, 2014). These changes lead to the challenge of dealing with ill-structured problems (Simon, 1973).

Innovation considered a source of differentiation and competitive advantage in the increasingly complex and rapidly changing business environment of the 21st-century can determine the survival of a project or business (Lee & Benza, 2015). Companies increasingly believe in innovation for their success in the ever-changing business environment.

In today's business context, CGVs and skills are more closely interrelated than ever before. Skills play a crucial role in determining the comparative advantages of countries in CGVs. Many of the opportunities and challenges brought about by CGVs are being affected by country skills (Grundke et al., 2017).

Considering current development processes in society and economics, there is a need for educational systems to prepare young people with new skills and competences that will enable them, in addition to benefiting from emerging new forms of socialization, to actively contribute to economic development under a system in which the principal asset is knowledge (Ananiadou & Claro, 2009).

Organizations that have corporate education structures historically offer developmental actions geared toward critical skills and competences related to the left brain that deals with logic and objectivity. Due to the new phase of globalization and the importance of innovation in business, the skills and competences related to the right hemisphere of the brain, such as holistic thinking, creativity, intuitive thinking and innovation are the objects of attention of business education professionals.

Lee and Benza (2015) report that educational institutions and programs of various types and sizes have successfully incorporated design thinking to foster innovative leadership education, and firms such as Apple and IDEO have demonstrated how it can improve business results. According to Wagner (2012), there seems to be a similarity between innovation skills and the essential elements of design thinking, such as empathy, listening, collaboration and experimentation.

The impact of ICTs on all dimensions of human existence, including the teaching-learning process, is undeniable. The internet, social networks and educational technologies are part of the educational process and the development of professionals. The value added to the Internet and information technologies is not attributed to their existence in the classroom or their characteristics, but to the way they are applied in education (Gebre, Saroyan & Bracewell, 2014; Kim & Reeves, 2007).

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