Chapter 2
Thinking Inside the Box: Educating Leaders to Manage Constraints

Kelsey E. Medeiros
The University of Texas at Arlington, USA

Logan L. Watts
The University of Oklahoma, USA

Michael D. Mumford
The University of Oklahoma, USA

ABSTRACT
Despite the importance of constraints in creative efforts, little research examines the role of constraints in the creative process, how leaders manage these constraints, and implications for educating leaders of creative efforts. The present chapter synthesizes the literature on constraints and leadership of creative efforts to provide an initial framework of constraints and creativity. Furthermore, this chapter proposes an initial model of constraint management portraying the cognitive and practical processes leaders engage in when managing constraints. The complex and dynamic nature of constraints, as highlighted by the model, emphasizes the need for educational efforts specifically addressing constraint management in creative endeavors. Therefore, this chapter provides practical suggestions for educating future leaders in constraint management.

CONSTRAINT MANAGEMENT IN CREATIVITY EDUCATION

The Labs management made an effort to isolate its scientists from the gritty day-to-day political concerns of the business. But the managers themselves had to keep track of how the technology and politics and finances of their endeavor meshed together. Indeed, they could never forget it. As long as the business remained robust – and it was the primary job of people like Mervin Kelly to keep the business robust – so did the Labs. - John Gertner, The Idea Factory

DOI: 10.4018/978-1-5225-0643-0.ch002
Today’s highly competitive and rapidly changing market necessitates that organizations innovate in order to achieve success (Shalley & Gilson, 2004). Indeed, a number of studies demonstrate the criticality of innovation to organizational performance (e.g., Eisenhardt & Tabrizi, 1995; Geroski, Machin, & Van Reenen, 1993; Jiménez-Jiménez & Sanz-Valle, 2011; Roberts, 1999). Naturally, innovation, or the implementation of creative ideas (Mumford & Gustafson, 1988), depends upon creativity, or the generation of creative ideas. Thus, it is not surprising that leading organizations place a high value on personnel exhibiting creative problem solving skills (Mumford, Scott, Gaddis, & Strange, 2002).

Although organizations place a high value on creativity and innovation, educational institutions have traditionally underemphasized the development of creative thinking in students (Sternberg, 2006). Strides have been made in recent decades, however, to identify curriculums and learning environments that support the development of student creativity (e.g., Cole, Sugioka, & Yamagata-Lynche, 1999; McWilliam & Dawson, 2008). In addition, a number of instructional approaches have been identified which may be particularly promising for informing the transformation of traditional educational strategies towards alternative approaches that emphasize the development of creative potential (e.g., Scott, Lonergan, & Mumford, 2004). Nevertheless, course assignments and activities in higher education, on the whole, continue to be characterized by traditional approaches to instruction which overemphasize acquisition of declarative knowledge (Fasko, 2001). For example, exposing students to group-based projects that involve the development, refinement, and implementation of a product or idea in response to a novel, complex, ill-defined problem remains the exception in classrooms, rather than the norm. As a result, students enter the workforce unprepared to solve complex problems, tolerate ambiguity, and lead others in creative projects.

One approach to developing creative thinking that has received little attention is the management of constraints. In popular culture, “thinking outside the box” has become synonymous with creativity. Indeed, the advice has been repeated often enough, and convincingly enough, that the catchphrase now represents a fundamental and pervasive misconception about creative work—that constraints are bad for creativity. This idea ignores the fact that creative work is, by nature, complex, demanding, and highly constrained. Leaders of creative efforts play a key role in facilitating project success by managing this complexity and providing domain-relevant expertise, resources, critical feedback, and creative problem solving skills (Vessey, Barrett, Mumford, Johnson, & Litwiller, 2014). The opening quote demonstrates this idea well. At the Bell Labs, leaders such as Mervin Kelly had to manage the creative process, taking into account constraints such as available technology and resources, among others. Thus, identifying strategies for educating students, the future leaders of creative efforts, to manage constraints inherent in creative projects may be of critical importance. The following pages provide a summary of creativity training efforts, present a brief taxonomy of potential constraints across multiple levels, propose a model of constraint management, and discuss implications of training constraint management in education settings.

**CREATIVE PROBLEM SOLVING**

Creative problem solving refers to the production of high-quality, original, and elegant solutions (Besemer & O’Quinn, 1999; Christaans, 2002) to complex, novel, and ill-defined problems (Mumford & Gustafson, 1988, 2007). Developing effective solutions to problems requiring creative thought involves a series of interactive processes. Researchers have proposed several process models (e.g., Amabile, 1996; Mumford, Mobley, Uhlman, Reiter-Palmon, & Doares, 1991; Wallas, 1926) to explain how individuals
24 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the product's webpage: www.igi-global.com/chapter/thinking-inside-the-box/166473?camid=4v1


Related Content

Higher Education and Smart Specialization in North-East Romania: Opportunities for Knowledge-Based Development
Elisabetta Marinelli and Cosmina Mironov (2019). Smart Specialization Strategies and the Role of Entrepreneurial Universities (pp. 234-254).
www.igi-global.com/chapter/higher-education-and-smart-specialization-in-north-east-romania/215706?camid=4v1a

Enhancing Global Competency of Future Construction Professionals
www.igi-global.com/chapter/enhancing-global-competency-of-future-construction-professionals/177466?camid=4v1a

Laws, Finance, and Policies of Higher Education Accessibility
Jennifer Raasch (2017). Disability and Equity in Higher Education Accessibility (pp. 135-152).
www.igi-global.com/chapter/laws-finance-and-policies-of-higher-education-accessibility/180458?camid=4v1a

From Logos to Eros and Back Again: An Exploration of the Foundations of Informal Learning and Tacit Knowledge
www.igi-global.com/chapter/from-logos-to-eros-and-back-again/129871?camid=4v1a