

Chapter 1

Theory of Cognitive Constructivism

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ABSTRACT

This chapter reveals the theory of cognitive constructivism that represents significant perspectives on information seeking, information retrieval and knowledge formation. Regarding theory of cognitive constructivism, the perspective of information seeking assists organizations in facilitating constructivists' instructional access to emphasize students' practical roles in knowledge management through independent information seeking and implementation. The utilization of cognitive constructivism is necessary for modern organizations that seek to serve suppliers and customers, increase business performance, strengthen competitiveness, and achieve continuous success in global business. Therefore, it is essential for modern organizations to examine their cognitive constructivism applications, develop a strategic plan to regularly check their practical advancements, and immediately respond to the cognitive constructivism needs of customers in modern organizations. Applying the theory of cognitive constructivism will favorably enhance organizational performance and reach strategic goals in the information age.

INTRODUCTION

In order for sustainable knowledge societies to grow and thrive, humans must have the ability to access information from which they can create knowledge as well as the capacity to share that knowledge globally with others who can build upon this new information in a virtuous circle of knowledge building if economic development and the resultant social progress are to proceed in a more equitable manner around the globe, education based upon new methods of teaching and learning

will be a key factor (Porcaro, 2011). Kasemsap (2014a) indicated that perception of learning emerges as the most important predictor of training transfer. Educational efforts to create new social networks are made in order to minimize the lack of knowledge and improve knowledge sharing in higher education institutions (Kasemsap, 2014b).

Various learning philosophies, such as humanistic, constructivist, and socio-cultural approaches, have accentuated the importance of emotion in learning (Naude, van den Bergh, & Kruger, 2014). Cognitive constructivism theory is of great value

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to teachers in their efforts to help students grasp the substantive and syntactic components of the subjects they are teaching (Amarin & Ghishan, 2013). Constructivism is an approach to knowledge and learning that focuses on the active role of learners (Baerveldt, 2013). Cognitive constructivism theory supports e-Learning (Keengwe, Onchwari, & Agamba, 2014). Cognitive constructivism emphasizes the active role of students in making sense of the information (Kalpana, 2014).

As a result of the influence of constructivist ideas about learning on education, teaching has become increasingly understood as the facilitation of learning rather than as a process where teachers have something to give to their students (Biesta, 2013). Students' perceptions of their constructivist learning are positively related to their critical thinking ability (Kwan & Wong, 2014). Modern constructivism entails the idea that the construction of knowledge occurs within the mind as per the individual's internal mental processes (Saade, Nebebe, & Mak, 2011). Information science is an interdisciplinary field primarily concerned with the analysis, collection, classification, manipulation, storage, retrieval, movement, and dissemination of information (Stock & Stock, 2013).

The strength of this chapter is on the thorough literature consolidation of cognitive constructivism. The extant literature of cognitive constructivism provides a contribution to practitioners and researchers by describing a comprehensive view of the functional applications of cognitive constructivism to appeal to different segments of cognitive constructivism in order to maximize the business impact of cognitive constructivism.

BACKGROUND

Information seeking is the process or activity of attempting to obtain information in both human and technological contexts. Information seeking is related to, but different from, information retrieval. Studies have been carried out into the information-

seeking behaviors of librarians (Brown & Ortega, 2007), academicians (Hemminger, Lu, Vaughan, & Adams, 2007), medical professionals (Davies & Harrison, 2007), engineers (Robinson, 2010), and lawyers (Kuhlthau & Tama, 2001). The cognitive constructivism viewpoint has undergone significant changes since the late 1970s, when it was proposed for the first time (Talja, Tuominen, & Savolainen, 2005). The call for more ecologically valid research served to bring on the widespread acceptance of psychology's metaphor of learning as knowledge construction in the 1980s and 1990s (Mayer, 1996).

The early attempts to develop cognitive approaches to information behavior are inspired by natural scientific ideas of measuring the processes of information reception and use (Talja et al., 2005). Cognitive constructivism emerged in information science in the late 1970s and 1980s as a reaction against the predominant information transfer model (Mokros, 1993; Cornelius, 1996; Day, 2001; Tuominen, Talja, & Savolainen, 2003). Gergen (1999) reflected the metatheory of cognitive constructivism existing in the fields of psychology and education. Gergen (1999) defined cognitive constructivism as a view in which an individual mind constructs reality but within a systematic relationship to the external world. The cognitive constructivism ideas are commonly labeled under the cognitive viewpoint (Talja et al., 2005).

The constructivist approach to learning has become accepted in the educational community (Dalgarno, 2001; Saade & Huang, 2009). Cognitive constructivism is an approach that informs artificial intelligence in drawing straightforward analogies between human information processing and computing (Ingwersen, 1992). The core of constructivism is that learners actively construct their own knowledge and meaning from their experiences by perceiving various things around them and making sense out of those objects in particular learning situation (Williams & Chinn, 2009).

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