Students’ Use of Online Resources to Enhance Learning Endeavors

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ABSTRACT
Although a relative abundance of studies are published about technology and its potentials in education, there is a marked lack of evidence-based research perspectives depicting what-learners-actually-do in ICT-rich environments. This study examined Indonesian university students’ use of ICTs in their independent learning endeavors. It was designed as a multiple case study with two phases, survey and interviews. The data revealed that the students pursued mixed experiences and feelings, both optimistic and distracted when collecting information online. While they enjoyed easy access to information, they felt overwhelmed with irrelevant activities that they called unconstructive learning. Self-regulation became the key success to their learning. Those who could control their exploration would gain maximum results.

KEYWORDS
Access to Vast Information, Distracted Learning, ICT for Learning, Independent Learning, Indonesian Students, Learning Strategies, Purposeful Searching, Self-Regulation

INTRODUCTION
A computer scientist, Pierre Auger (as cited in Bowker, 2007, p. 22), proclaimed, “now, after the age of materials and stuff, after the age of energy, we have begun to live the age of form”; it is a movement from a materialistic to a form era, from diachrony to synchrony. Sundaram (2007) elaborates on the age of form as the globalizing city established through the spread of cheap digital technologies where people increasingly engage with virtual matters instead of tangible materials. This proclamation is welcome by computer-user societies involved with mass production of Personal Computers (PCs) and recently developed networked computers together with the Internet.

In the field of learning psychology, the advancement of computer technologies (ICTs) adds the digital layers of learning environments (Mon, 2010; Parkes, Stein, & Reading, 2015). Today, local and distributed practices, and online and offline spaces are interwoven and challenge notions of learning in formal institutions. Also, computers are not just tools that might enhance certain aspects of learning and teaching; they transform our notion of knowledge and how we position ourselves in the face of a transformed concept of knowledge. In other words, ontological and epistemological issues emerge and disrupt well-established and institutionalized views of the core terms of education including knowledge, curriculum, learning, and teaching.

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Information Communication Technologies (ICTs) in this study refer to web-based online environments that are relatively open systems, allowing interactions and knowledge sharing as well as providing access to a wide range of information resources (Bellhäuser, Lösch, Winter, & Schmitz, 2016; Tsivitanidou & Constantinou, 2016). This definition covers a broad range of features ranging from static, informative individual weblog pages to interactive google classroom; from asynchronous emails and discussion forums to synchronous social media chat rooms and e-conferences. The current study was intended to explore the students’ use of ICTs as their learning environments focusing on how they explored information and communication available for them to benefit their learning endeavors. From this investigation the study examined the meaningful activities that the students might have been involved in during their exploration. Meaningful activities were those which potentially engaged their thinking, producing learning.

**ICT AND LEARNING ACTIVITIES**

The current stage of ICT development has reshaped the uses of networked computers to enable learners to actively obtain information and become active participants in learning rather than passive recipients (Laine & Nygren, 2016; Sutinen, 2013). Proponents of educational technology argue that networked computers have changed learning processes to promote constructivist learning experiences (Merriënboer, 2016; Weasenforth, Biesenbach-Lucas, & Meloni, 2002). Networked computers are claimed to have the capacity to accommodate proactive learning as they allow students to access information and materials and benefit them in constructing their understanding. In particular, Mayordomo and Onrubia (2015), Chang (2003), and Bonk and King (1998) found that networked computers could promote active and collaborative construction of knowledge and engagement in contextualized tasks.

However, in the continuous effort to explicate human learning within virtual learning environments the constructivist theory of learning is said to be an ontologically insufficient explanation as it denies the embeddedness of human learning in social and cultural contexts (Fox, 2001). Leont’ev and Asnin (2005) contend that the intellectual development of individuals is inherently involved with their participation in sociocultural activities. Hiltz (1994) underlined this when she stated that “the social process of developing shared understanding through interaction is the ‘natural’ way for people to learn” (p. 22). Therefore, from this perspective, it is important to consider the sociocultural context in which individuals develop. This study argues that it is important to consider how students are learning and interacting with online environments from sociocultural perspectives, as well as from the more traditional cognitive constructivist perspective informing research into online learning.

Research studies on the ICT use in higher education have established that technologies have enriched the context for learning processes (Bonk, 2009; Dutton, Cheong, & Park, 2004; Iqbal, Kankaanranta, & Neitaaanmäki, 2010; Turnbow & Roth, 2017). These studies have found that global networks of computers have contributed to accessing of vast resources for learning and to promoting interpersonal interaction. Classrooms are no longer limited by physical buildings; learners may reach virtual resources located in other universities and communicate with people around the world.

Several authors (Hamid, Waycott, Kurnia, & Chang, 2015; McLuckie & Topping, 2004; Noel, 2015; Reis et al., 2018) have highlighted the benefits of the Internet for students in terms of cognitive constructivism and social constructivism. They found that new technologies such as those associated
Concepts behind Serious Games and Computer-Based Trainings in Health Care: Immersion, Presence, Flow
Jana Birkenbusch and Oliver Christ (2013). Serious Games and Virtual Worlds in Education, Professional Development, and Healthcare (pp. 1-14).
www.igi-global.com/chapter/concepts-behind-serious-games-computer/75804?camid=4v1a

Homo Virtualis: Virtual Worlds, Learning, and an Ecology of Embodied Interaction
www.igi-global.com/article/homo-virtualis-virtual-worlds-learning/39129?camid=4v1a