

# Micro-Credentials, Nano Degrees, and Digital Badges: New Credentials for Global Higher Education

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## ABSTRACT

*Digital technologies offer myriad access to learning; entree to education is still a necessity for economic success, with access increasingly promoted to those wishing access to furthering their skills (Judson & Taylor, 2014; Pascarella & Terezini, 2005; Walpole, 2003). As new technologies and traditional education paradigms have collided, credentialing paradigms have also needed review (Crotty, 2012; European Association for International Education (EAI), 2012, 2015; Hemsley-Brown & Lowrie, 2010). Traditionally, academic credentials and professional certifications were awarded as students emerged from education and vocational/technical programs (Ledesma, 2012). By 2015, global higher education institutions were considering validation of knowledge from online learning coursework in one single common, broad-based credentialing platform (EAI, 2012, 2015). Accreditation for online learning or Massive Open Online Coursework provides challenges for universities to accept and acknowledge learning as credited coursework; awarding credit for different types of educational coursework disrupts higher education's traditional, formal educational processes for financial and educational accountability (Bass, 2012; Christensen & Eyring, 2011; Christensen, Horn, Caldera, & Soares, 2011). The challenge for post-secondary institutions is to look at online learning opportunities through a lens of reform and innovation and equally, as an opportunity to increase higher education participation. (Daniel, Kanwar, & Uvalic-Trumbic, 2009; Woodson, 2015).*

*Keywords: Digital Badges, Digital Learning, Micro-Credentials, MOOCs, Nano Degrees, Online Learning*

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## INTRODUCTION

The impact of online learning, Chubb and Moe (2012) argue, is comparable to the impact of the printing press on literacy. "The nation and the world are in the early stages of a historic transformation in how students learn, teach-

ers teach, and schools and school systems are organized" (Chubb & Moe, 2012, para 2). Today's higher education students are Net Generation (Net Gen and/or Gen C) students, born after 1982, digitally connected, with expectations that learning experiences will be interactive, online, and available when they

DOI: 10.4018/ijtem.2015010104

are ready to learn (Barnes, Marateo, & Ferris, 2007; Prensky, 2001; Young, 2012a, 2012b, 2012 c). Casares, Dickson, Hannigan, Hinton, and Phelps (2012) suggest Net Gen and Gen C students have constructivist “learning needs and strengths” (p. 16); as learners, they prefer to acquire knowledge and construct meaning for themselves rather than knowledge being doled out in classroom sessions (Arum & Roksa, 2011; Johnson, Adams Becker, Estrada & Freeman, 2014). Thus the instructor becomes the facilitator of knowledge acquisition rather than the transmitter of knowledge (Burke & Butler, 2012; Schell & Janicki, 2013; Woodson, 2015).

The current debate about the future of education coupled with innovative teaching and learning strategies dispel the myth that a college degree is simply a credential to be deployed in the economic market (Hemsley-Brown & Lowrie, 2010; Li & Irby, 2008; Olneck, 2012). The promise of open, inventive learning offers accessibility and availability for learners worldwide; new models for digital education provide new marketing models for higher education (Andersson, 2012; Conrad, 2013; Johnson et al., 2014; Judson & Taylor, 2014).

## DIGITAL LEARNING

As technological-based learning has flourished, evolving digital mediums are providing learners with 21<sup>st</sup> Century workforce ready skill sets not traditionally offered in college and university traditional education certification programs (Graves, 2013; LeBlanc, 2012; Mintz, 2013). Marketing online personal learning has opened consideration for the need for different types of credentialing, which in have been viewed in the past as inferior to standardized credentials from universities and colleges (Carey, 2012a, 2013a, 2013b; Christensen, Horn, Caldera, & Soares, 2011; Helmsley-Brown & Lowrie, 2010; Maney 2012a, 2012b).

Christensen and Eyring (2011) refer to online learning as a “disruptive innovation”, “a process that allows as simple, affordable, and accessible product to replace a product

that is complex, expensive, and inaccessible, even if the initial quality of the new product is inferior” (Casares, Dickson, Hannigan, Hinton, & Phelps, 2013, p. 11). Certifications have been traditionally tied to credentialing authorities for recognition as degrees or academic credentials, which were then, accepted as formal qualifications for professional practice (Goliogoski, 2012; Halavais, 2012). E-Learning 2.0 expertise acquired from virtual class participation does not fit “the constraints of the brick and mortar campus... without the aid of an educator being present” (Dougherty, 2012, p. 3).

Alternative credentialing acknowledges proficiency in skills acquired through e-Learning, life experiences, internships, community service, online class work, and participation in professional organizations, in the form of competency-based learning (Cormier & Siemens, 2010; Jarvis, 2007). Marketing to Net Gens and Gen Cs targets their interest in non-traditional credentials such as digital credentials or nano badges rather than in the acquisition of formal degrees (Fain, 2012; Keegan, 2003).

Johnson, Smith, Willis, Levine, and Haywood (2011), Johnson, Adams and Cummins (2012), and Johnson et al. (2014) reported in the 2011, 2012, and 2014 Horizon Reports, challenges and opportunities for higher education as e-Learning evolves and allows credentialing of any time/anywhere learning. E-Learning experiences are defined as “the idea of learning through digital connections and peer collaboration; users/learners are empowered to search, create, and collaborate, in order to fulfill intrinsic needs to learn new information” (Schlenkler, 2012, para 1).

Massive open online courses (MOOCs), open to anyone with no necessity to meet entry-level requirements, no fees, and “no defined path through the content because you, as a participant, help to create the content as you engage in the MOOC” (Dougherty, 2012, p. 4), also bring credentialing issues. Participation is interest-based, self-directed, with only the necessity to be able to access and use the technology and to be able to see information

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