

# Non-cognitive Assessments at Scale: MOOCs and Employability

**Tawanna Dillahunt**  
University of Michigan  
tdillahu@umich.edu

**Yuan Wang**  
EdPlus at Arizona State University  
elle.wang@asu.edu

**ABSTRACT:** Online learning environments such as Massive Open Online Courses (MOOCs) have been shown to support employability among learners, and to provide staff with development opportunities for their employees. However, while certain aspects of human capital can be properly assessed in MOOCs, there are no formal assessments to evaluate all dimensions of employability: career identity, personal adaptability, and social and human capital—which can lead to successful employment outcomes. We propose Fugate et al. psycho-social construct of employability to provoke a discussion about whether and how these dimensions can be used to inform the assessment of non-cognitive skills in online learning environments. Employability is vital to reaching online learning environments’ potential to support those learners who are motivated to take online courses such as MOOCs for employment-related reasons.

**Keywords:** MOOCs, employability, employment, social capital, non-cognitive skills

## 1 INTRODUCTION

Massive Open Online Courses (MOOCs) provide Internet-connected learners with opportunities to take a wide range of courses from some of the world’s most elite schools (Nanfito, 2014); MOOCs also provide opportunities to connect learners to other learners around the world (Kulkarni, Cambre, Kotturi, Bernstein and Klemmer, 2015). In addition, MOOCs help to remove several barriers associated with traditional education such as costs and are regularly updated with new material (Nanfito, 2014). Given these paybacks, MOOCs and other learning environments are in a position to support education and employability. Yet, the vast majority of research exploring MOOCs investigates enrollment, user populations, participation, completion and retention rates, platform development, pedagogy, motivations, business models, and social network analyses (e.g., Clow, 2013; Cooper and Sahami, 2013; Dellarocas and Van Alstyne, 2013; Dillahunt, Chen, and Teasley, 2014; Dillahunt, Wang, and Teasley, 2014; Ho, Reich, Nesterko, Seaton, Mullaney, Waldo and Chuang, 2014; Kasunic, Hammer, and Ogan, 2015; Kizilcec and Schneider, 2015; Kizilcec, Piech and Schneider 2013; Kolowich, 2013; Rosé and Siemens; Rosé, Carolson, Yang, Wen, Resnick, Goldman, Sherer, 2014). However, understanding MOOCs’ roles and relationship with post-course employment is still relatively unexplored (Calonge and Shah, 2016; Dillahunt, Ng, Fiesta, and Wang, 2016).

## **2 THE EMPLOYABILITY FRAMEWORK**

Individuals must be flexible and adaptable to manage rapidly changing career landscapes (Fugate, Kinicki, and Ashforth, 2004) that are becoming increasingly common today. A person's willingness and ability to adapt is critical to having a successful career (Hall, 2002). Fugate et al. propose employability, a "psycho-social construct that embodies individual characteristics that foster adaptive cognition, behavior, and affect, and enhance the individual-work interface" (p. 15, 2004). Employability consists of three dimensions: career identity, personal adaptability, and social and human capital. We then propose these three aspects of this construct be used as a non-cognitive assessment in online learning environments such as MOOCs.

Career identity is an individual's definition of self in the career context. It describes who the person is or who the person wants to be and can operate as a "cognitive compass" motivation an individual to create or realize opportunities. Personal adaptability is one's ability to adapt to changing situation by changing the following personal factors: one's propensity to learn, optimism, openness, generalized self-efficacy and one's internal locus of control (Fugate, Kinicki, and Ashforth, 2004). Social and human capital are embedded into one's career identity. Social capital is described as the benevolence or goodwill intrinsic to one's social networks and it is critical for achieving occupational goals. Human capital consists of several factors such as education and experience, which is the strongest predictor of career progression (Judge, Cable, Boudreau, and Bretz, 1995), emotional intelligence (Wong and Law, 2002), and cognitive ability (Tharenou, 1997). According to Fugate et al. "one's perceived ability to identify and realize career opportunities is derived from their career identity, personal adaptability, and social and human capital" (p. 26, 2004).

## **3 MOOCS AND EMPLOYABILITY**

In a systematic qualitative literature review of sixteen education and technology-enhanced articles that identified MOOCs' potential to bridge the skills gap between employers and students, researchers found that MOOCs potential to help students attain relevant skills before employment is relatively unexplored (Calonge and Shah, 2016). In addition, the authors suggest that MOOCs are global stakeholders in increasing opportunities for corporations to provide staff training and development to their employees as well as to those job seekers looking for employment. A qualitative study of whether MOOCs are platforms for employability revealed that while MOOCs support some aspects of human capital, they provide little support for career identity, personal adaptability, or social capital (Dillahunt, Ng, Fiesta, Wang, 2015).

## **4 LOOKING AHEAD: ASSESSMENTS OF EMPLOYABILITY**

While assessment and support for the vocational and cognitive aspects of human capital is prevalent in these online learning environments, little is known about non-cognitive aspects such as one's ability to acquire social capital in MOOCs, a learner's career identity and personal adaptability over time while taking online courses. We argue that the employability framework can inform assessments of these non-cognitive skills especially in the context of online learning environments such as MOOCs. These platforms provide the perfect space to assess employability dimensions as a large percentage of learners are employees who wish to transition to new careers (Dillahunt, Ng, Fiesta, Wang, 2015; Kizilcec and Schneider, 2015) and employability is especially beneficial to

employees in transition who may be coping with job search and even job loss (Fugate, Kinicki, and Ashforth, 2004). In addition, Fugate et al. argue that more research is needed to: 1) further define the construct of employability—what constitutes low versus high employability? and 2) what role does employability play in various work-related phenomena (2004)? Therefore, we propose to investigate the relationship between various non-cognitive skills and employability to help answer these questions.

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