



Predicting adult learners' online participation: Effects of altruism, performance expectancy, and social capital



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ABSTRACT

Learners' socio-demographic characteristics, personal traits, and performance expectancy are frequently employed to interpret online participation among members in virtual, higher education, and professional settings, but not in adult education contexts. Furthermore, the social capital framework has scarcely been used to explain online participation in educational settings, despite its prevalence in virtual contexts. The present study aims to uncover the unique predictive value of altruism, perceived learning benefits as a measure of performance expectancy, and social capital with regard to adult learners' online participation in addition to socio-demographic variables. A questionnaire was administered and completed by 181 adult learners following a blended learning program in Flanders (Belgium). Hierarchical multiple regressions revealed that working learners, lower degree holders, and females are the keenest participants in online participation. We also found that performance expectancy outweighed altruism in explaining online participation. Only two dimensions of social capital, namely sense of belonging and norms of reciprocity, significantly predicted online participation. Based on these findings, pedagogical and research implications are discussed.

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1. Introduction

Interaction among learners for knowledge exchange and construction, hereinafter referred to as online participation, is placed at the core of both traditional and online learning contexts. It is through this process that learners can clearly articulate and/or refine their newly acquired knowledge by peers' justification (Laurillard, 2012). Ma and Yuen (2011) posit that the success of online learning is determined by the participation, engagement, and social interaction among the learners. Recently, Jaggars and Xu (2016) have conducted a large-scale study to investigate which course design features have a significant contribution to learners' course-outcomes. The participants were 678 learners from 23 online courses at different community colleges. The result confirms previous findings on the positive effect of online participation on learning performance, which has mostly been derived from a limited sample. In blended learning (BL) context, Bernard, Borokhovski, Schmid, Tamim, and Abrami (2014) also find that learner-learner interaction outperforms learner-instructor interaction regarding students' learning outcome as evidenced in their meta-analysis.

Concerning the levels of online participation, Gerber, Grund, and Grote (2008) found that one-third of learners are lurkers, i.e. those who just surf through the messages but do not contribute to the topic under discussion. While lurkers can also

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benefit from the single act of reading, [Laurillard \(2012\)](#) argues that unless learners can articulate and explicitly express their thinking by means of writing, what they think they understand or can do is less likely to be the case. Furthermore, as adult learners value the conveniences of space and time provided by BL, the decision to participate in online discussion is usually made based on a cost-benefit evaluation. This means that if interaction with content and instructors is considered to be more or equally effective to peer interaction, adult learners will probably prefer the former. This is because it is less time-consuming, and more often, instructors are considered to be a more reliable source of consultation ([Sher, 2009](#)). The evaluation of benefits and efforts, referred to as performance and effort expectancy, is one of the most important factors addressed by a number of technology acceptance models, e.g. the Technology Acceptance Model (TAM, [Venkatesh & Davis, 2000](#)) and the Unified Theory of Acceptance and Use of Technology (UTAUT, [Venkatesh, Morris, Davis, & Davis, 2003](#)). These models have been prominently used in the investigation of technology acceptance ([Venkatesh, Thong & Xu, 2012](#)) and more recently, online knowledge sharing ([Nistor, Daxecker, Stanciu, & Diekamp, 2015](#); [Nistor, Schworm, & Werner, 2012](#)). However, the validation and extension of models comprising attitudes and expectancy in educational settings needs further researched as endorsed by [Nistor \(2013\)](#) and [Venkatesh et al. \(2012\)](#).

Online participation is addressed by a great number of studies, mostly in the context of distance learning and higher education ([Lucas, Gunawardena, & Moreira, 2014](#)). In adult education settings other than higher education, wherein learners need to combine work and family with study, online participation for knowledge exchange and collaborative work is normally required but not often graded (e.g. [Caspi, Chajut, & Saporta, 2008](#); [Nistor, 2013](#)), particularly in the present study's context. This reduces the cognitive workload and pressure for adult learners to some extent. Nevertheless, it makes online participation among peers less likely or at low levels of knowledge construction. This scenario is analogous to virtual learning communities (VLCs) whose members gather to share expertise without any apparent benefit. Whereas social capital is a prominent framework used in investigating the motivation of knowledge sharing in these learning communities, it is not prevalent in the context of adult education. Furthermore, studies employing a social capital framework to examine the quality of online participation are mostly conducted in countries of Eastern culture ([Chang & Chuang, 2011](#); [Chen & Hung, 2010](#)). The differences in cultural communication patterns between Eastern and Western cultures can be a factor affecting the validity of certain frameworks in explaining the online participation of adult learners. [Hall and Hall \(1990\)](#) and [Storti \(2011\)](#) suggest that the majority of Western culture is ascribed to low-context (requiring information to be sufficient), more direct (being exact in meaning), and less avoidance of criticism (truth is more important than feeling). Conversely, the majority of Eastern culture relies on mutually shared understanding; therefore, a smaller amount of information is required, i.e. being attached to high-context communication pattern. In addition, being indirect and putting high value on harmony among members also places the two cultures on a continuum of communication patterns.

Against these backgrounds, the present study investigates predictors of adult learners' online participation from a performance expectancy perspective guided by technology acceptance models, altruism, and a social capital framework, taking into account their socio-demographic characteristics. Furthermore, online participation is deconstructed into different types to capture the essence of learners' self-reported online participation behaviors.

2. Theoretical background

2.1. Online participation

[Moore \(1989\)](#) distinguishes three types of online interaction: learner-instructor, learner-learner, and learner-content. The latter type of interaction is a self-directed learning activity. Focusing more on the nature and quality of online interaction, [Hrastinski \(2009\)](#) proposes a theory of online learning with online participation as the core concept. Hrastinski defines online participation as a "complex process of taking part in and maintaining relations with others" (p.81). As a consequence, measurements of online participation should be more nuanced to capture the diverse interaction activities that have the potential to trigger synthesis and integration of ideas and concepts, and promotion of problem-solving and critical thinking. As conceptualized by Moore and Hrastinski, the difference between online interaction and online participation is that the latter emphasizes learner-learner interaction for the purpose of facilitating and promoting high-quality learning. Therefore, in this study, we use the term online participation to refer to the different interaction types among learners for purposes of maintaining relationships, taking part in, and facilitating knowledge sharing and construction.

For effective learning, [Johnson and Johnson \(2009\)](#) propose that online participation should have a promotive nature, i.e. the interactions should be encouraging, supportive, critical, and reflective. This results in the need for an elaboration of online participation into more specific measurements. In this respect, [Zhu's \(2006\)](#) Analytical Framework for Cognitive Engagement in Discussion divides online participation into five categories: statement (posts demonstrating varying levels of cognition based on [Bloom's \(1956\)](#) taxonomy), reflection, mentoring, question, and scaffolding. While the first three categories focus more on learners' meaning making process, question and scaffolding are more related to discussion organization and facilitation.

In accordance with [Zhu \(2006\)](#), [Yoon \(2006\)](#) categorizes online behaviors of VLC members into three domains: work, management, and social. Yoon conceptualizes work-related posts as those that are meaningful and task-oriented. In so doing, he differentiates work-related posts from management-related behaviors and social domain. The former are defined as "efforts directed to manage the overall group process and group meetings (p.302) and the latter as "efforts to build relationships with other team members" (p.302). As can be seen, [Yoon's \(2006\)](#) work and management domains display

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