The Impact of Authentic Learning Exercises On Pre-service Teachers’ Motivational Beliefs towards Technology Integration

Jennifer R. Banas, Northeastern Illinois University, Chicago, IL, USA
Cindy S. York, Northern Illinois University, Dekalb, IL, USA

ABSTRACT

A quasi-experimental study explored the impact of authentic learning exercises on preservice teachers’ motivational beliefs and intentions to integrate technology, as well as the ability of those beliefs to predict intentions. A questionnaire was used to assess 104 preservice teachers’ expectancy-value related motivational beliefs, namely intrinsic and extrinsic goal orientations, task value, self-efficacy, and control of learning. Results indicated authentic learning exercises might have enhanced motivational beliefs, particularly self-efficacy and intrinsic goal-orientation. Also, motivational beliefs predicted intentions to integrate, with task value predicting significantly.

Keywords: Authentic Learning, Motivation, Pre-Service Teachers, Task Value, Technology Integration

INTRODUCTION

Despite the availability of technology afforded to schools, many teachers ineffectively integrate or do not integrate technology (Harris, Mishra, & Kohler, 2009). In part, lack of integration may be due to deficiencies in professional preparation (Haydn & Barton, 2006; Lawless & Pellegrino, 2007). Most teacher education programs are not constructed to influence preservice teachers’ beliefs about technology (Kay, 2006). Programs might only include one designated educational technology course and other professional preparation courses may offer little to no experience with making technology integration decisions (Haydn & Barton, 2006). Consequently, unless a preservice teacher is self-motivated to learn how to integrate technology, he or she is unlikely to do so in a future classroom (Kim & Keller, 2011; Smarkola, 2011).

DOI: 10.4018/ijicte.2014070105
Knowing professional preparation plays an important role in whether or not preservice teachers will use technology in future classrooms (Chai, Koh, & Tsai, 2010; Haydn & Barton, 2006; Lawless & Pellegrino, 2007), there is value in uncovering preservice teachers’ existing beliefs regarding technology integration, the predictive relationship of those beliefs with technology integration, and the types of learning experiences that influence beliefs and intentions (Kay, 2006). More specifically, understanding preservice teachers’ expectancy-value related motivational beliefs towards technology integration and their intentions to integrate could help teacher educators design better professional preparation that hones in on activities that support future technology integration.

This quasi-experimental study sought to uncover preservice teachers’ expectancy-value beliefs (specifically intrinsic goal orientation, extrinsic goal orientation, task value, control of learning and self-efficacy) towards technology integration, the impact of authentic learning exercises on those beliefs and intentions, and the predictive relationship between those beliefs and intention. The purpose of the authentic exercises was to provide preservice teachers with the opportunity to practice making technology integration decisions similar to in-service teachers. The driving idea was these types of exercises might positively influence beliefs, and consequently intentions, by way of helping preservice teachers develop an early teaching schema that includes technology.

THEORETICAL BACKGROUND

In this background section, the authors provide an overview of motivation, as defined and assessed in this study. Next, a case for intention as an estimate of future behavior is made. Finally, how authentic learning exercises, as an instructional strategy, are used to influence preservice teachers’ motivational beliefs and intentions is explained. The research questions follow this discussion.

MOTIVATION AND TECHNOLOGY INTEGRATION

Without sufficient motivation, it is unlikely preservice teachers will put forth effort to learn and later use technology in their future classroom (Kim & Keller, 2011; Smarkola, 2011). Brophy (1999) stated, “Motivation is a theoretical concept used to explain the initiation, direction, intensity, and persistence of behavior, especially goal-directed behavior” (p. 2). The multi-dimensionality of motivation as expressed in this definition suggests a single variable may not be sufficient to describe one’s beliefs about technology integration. In this study, preservice teachers’ motivation to integrate technology was assessed via multiple dimensions, specifically intrinsic and extrinsic goal orientation, task value, control of learning beliefs, and self-efficacy. Collectively, these five dimensions are entrenched in McKeachie, Pintrich, Lin, and Smith’s (1986) motivation and learning strategies taxonomy. Their taxonomy is rooted in expectancy-value theory, a theory that postulates the primary measureable outcome of motivation is effort, and task value and success expectancy are necessary preconditions (Fishbein & Ajzen, 1975).

The motivation and learning strategies taxonomy suggests motivation is not a static trait, but rather a dynamic, contextually-bound construct mediated by value beliefs (i.e., intrinsic goal orientation, extrinsic goal orientation, and task value) and expectancy beliefs (i.e., control of learning and self-efficacy) with each belief contributing to motivation in its own way and varying from one situation to the next (Duncan & McKeachie, 2005). According to Pintrich, Smith, Garcia, and McKeachie (1993), intrinsic goal orientation concerns the degree to which one performs a task for reasons such as challenge, curiosity, and mastery. In the realm of technology integration, this implies learning how to integrate technology would be a motivating end all to itself. Extrinsic goal orientation, in contrast, is a means to an end. One participates to earn a letter grade, award, promotion, or other external recognition. Task
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