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A study of the effects of goal orientation on the reflective ability of electronic portfolio users

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ABSTRACT

This paper explores and discusses the effects of different goal orientations on students' reflective ability as demonstrated in their electronic portfolios (ePortfolios). Primary data was collected from 54 showcases (digital containers) generated by 26 undergraduate students on an ePortfolio platform over a period of 3 months. The participants had the flexibility to determine their showcase content in their ePortfolio, but were required to follow a structured showcase format composed of setting a goal, uploading digital files in support of the identified goal and reflecting on the learning experience. This study reveals that most participants tended to set mastery goals rather than performance goals in their showcases, while some selected a combination of both. It is also found that participants with dual goal orientations (mastery goals and performance-approach goals) appeared to demonstrate a higher level of persistence and reflection than those with only single goal orientations (mastery goals or performance goals) in their ePortfolio. The findings suggest that the ePortfolio is a valuable tool in fostering students' reflective competence by emphasizing both process (mastery-oriented) and product (performance-oriented).

1. Introduction

In recent years, there has been a growing amount of research concerning the adoption of electronic portfolio (ePortfolio) practice to promote student reflection, especially in higher education and professional training (Hartnell-Young & Morriss, 2007; Joyes, Gray, & Hartnell-Young, 2010; Liao, 2011). ePortfolios are commonly characterized as a constructive learning tool by which students can become involved in a self-directed process of collecting, organizing and presenting their own artifacts in a variety of media types (e.g., text, graphics, audio and video) for a number of different purposes (e.g. to keep track of learning progress for course assessment) over a specified period of time (e.g. during an academic year) (Barrett, 2007). More importantly, ePortfolio use is reported to have the potential in advancing students' reflective ability (Stefani, Mason, & Pegler, 2007), a widely recognized attribute of deep learning (Moon, 2004).

The literature on ePortfolio pedagogy consistently acknowledges goal-setting as an important first step in learning (Abrami et al., 2008). To identify goals, students are expected to consider the specific outcomes or performance levels that they plan to fulfill (Latham & Locke, 2007). Some students, for example, may choose to demonstrate evidence of practical skill attainment or to record their out-of-class learning experiences in their ePortfolio, while others may target multiple goals (Joyes et al., 2010). The choice of goals, regardless of type or orientation, is likely to influence subsequent learning processes such as progress monitoring and strategy refinement for ensuring success (Zimmerman & Tsikalas, 2005).

In their research on goals, Meece, Anderman, and Anderman (2006) identified two types of goal orientations, namely mastery (also called *learning* or *task*) and performance (also called *ego* or *ability*). Mastery goals generally refer to students' desire to develop knowledge or skills in the light of self-referential standards (Ames, 1992), while performance goals center chiefly on students' concern about outperforming peers on the basis of normative standards (Elliot, 1999). A substantial body of evidence suggested that mastery goals correlate strongly with persistence, effort, self-efficacy and positive affect (Ames, 1992; Elliot, 1999), but they were rarely related to actual task performance such as course grades or examination scores. On the other hand, performance goals were shown to have positive links with task performance (Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Kaplan & Maehr, 1999), albeit evidence of their association with surface learning and negative affect in the face of challenges or setbacks (Kaplan, Middleton, Urdan, & Midgley, 2002).

It is understood that ePortfolio practice exhibits characteristics that overlap those linked to mastery goal orientation, motivating students to excel and explore a task in depth. The Joint Information Systems Committee (JISC, 2007), for instance, advocates the use of ePortfolios to support and record students' pursuit and achievement of personal or professional competences. While this application of ePortfolios focuses on improving one's own competence, other ePortfolio practices

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are more aligned with performance goal orientation which favors a focus on social comparison and competition. Using ePortfolios for study or job application as well as for summative course assessment (JISC, 2007) tends to exemplify the latter where outperforming others assumes primacy.

Despite previous reports drawing attention to possible links between goal orientations and outcomes in certain achievement situations, existing research remains almost exclusively devoted to exploring either the type of goal orientation among ePortfolio users, or the relationship of goal orientation and student achievement within the ePortfolio context. The impact of goal orientation on ePortfolio users' demonstrated level of reflective ability, however, is not clearly understood. Understanding this issue is important for educators to adopt appropriate ePortfolio practice for the benefit of enhancing students' reflective capability.

2. Literature review

2.1. Types of goal orientations

The manner in which students determine their goals in competence-relevant settings such as school and sports is of interest to goal theorists. Dweck and Leggett (1988), for instance, conceptualized goals as firstly, performance-oriented with individuals driven by concern about competence judgments, and secondly, learning-centered with attention accorded to competence enhancement. Similarly, Meece et al. (2006), Elliot (1999) and Ames (1992) identified and elaborated two types of goal orientations: mastery goal (also known as *learning* or *task*) and performance goal (also called *ego* or *ability*). Mastery goals were characterized by students' desire to learn, understand and develop competence, with a focus on self-improvement (Ames, 1992). By contrast, performance goals brought to the fore students' concern about demonstrating high ability relative to peers, with an emphasis on outperforming others (Elliot, 1999).

Earlier research on goals revealed differential effects of the two types of goal orientations on learners. When confronted with challenges or setbacks, students displaying consistent mastery-oriented patterns were reported to show ability to adapt through persistence, effort, self-efficacy and positive affect (Ames, 1992; Elliot, 1999). Although mastery goals are generally considered productive in academic settings, their impact on actual achievement like examination scores or course grades was rarely discussed (Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002). On the contrary, the findings for performance goals were mixed. Some studies linked performance goals with maladaptive outcomes such as superficial learning and negative affect in the face of challenges or setbacks (Kaplan et al., 2002; Midgley & Urdan, 2001), while others suggested no clear correlation between performance goals and maladaptive outcomes or adaptive outcomes such as task achievement (Harackiewicz et al., 2002). To investigate the inconsistent findings, some theorists separated performance goals functionally into two distinct forms, avoidance and approach (Elliot, 1999). One possible explanation that emerged was performance-avoidance goals focused on eschewing failure, thus the connection with maladaptive outcomes; performance-approach goals, on the other hand, emphasized achieving success, hence the link to adaptive outcomes.

Taken together, mastery goals and performance-approach goals tend to exert positive effects on learning by promoting distinct educational outcomes. Where mastery goals could bring about higher interest but probably not performance, performance-approach goals could lead to higher performance but probably not interest (Harackiewicz et al., 2002). It is possible that the pursuit of both mastery and performance-approach goals could optimally motivate students in various educational settings including the ePortfolio environment. Although researchers (e.g. Midgley, Kaplan, & Middleton, 2001) advocate further systematic investigations into how different goal orientations combine to encourage motivation and achievement, our understanding of how this might work within the ePortfolio context remains inadequate.

2.2. Promoting reflective ability through ePortfolio practice

An ePortfolio can be defined as 'a digital container capable of storing visual and auditory content including text, images, video and sound' (Abrami & Barrett, 2005). It is characterized as a constructive learning tool whereby learners can set specific goals and then attempt to collect, organize and present artifacts in digital formats for attaining those goals (Hartnell-Young & Morriss, 2007; Meeus, Van Petegem, & Engels, 2009). Through reflective writing upon the artifacts, learners have the opportunity to practice and demonstrate their ability to construct meaning out of the disparate pieces of evidence (Abrami et al., 2008). This point of view was given support by Barrett (2005), who added that ePortfolios are a means 'to support reflection that can help students understand their own learning and to provide a richer picture of student work that documents growth over time' (2).

Despite the potential of ePortfolio practice in improving learners' reflective ability, Zeichner and Wray (2001) cautioned against the notion that constructing portfolios alone can promote reflection, given the significance of understanding the nature and quality of reflection generated under different conditions of portfolio use. In response to this call, Orland-Barak (2005) carried out a study to analyze the portfolios of 32 mentors in two teacher professional development courses. Her findings revealed that the language of reflection in the portfolios was predominantly of descriptive nature rather than of critical nature. Drawing on social theory of learning, Orland-Barak (2005) suggested that engaging learners in the task of constructing a group portfolio may help, and she asserted that 'this task can yield higher levels of reflective thinking, provided participants share a strong ethos of collaboration that goes beyond the confines of a particular intervention' (40).

2.3. The role of goal setting in ePortfolio construction

As discussed above, high-level reflective thinking does not emerge merely through student participation in ePortfolio practice. To foster deep reflection, engaging students in a collaborative construction process of ePortfolios may be an option. An alternative worthy of consideration is to cultivate an individualized approach like self-regulated learning. Self-regulated learning refers to situations whereby an individual directs his or her thoughts and behaviors towards personal goal during a learning process (Zimmerman, 2008). It is conceived as a constructivist approach in which learners are engaged in an active process of goal setting, progress monitoring and strategies refining rather than in a passive process of knowledge reception from teachers (Pintrich, 2000b). Since self-regulated learning is recognized as a desirable attribute for all students in different disciplines and ages, it has received considerable attention in educational research. A growing body of evidence has confirmed that self-regulated students are likely to perform well in academic settings (Azevedo & Cromley, 2004; Greene, Costa, Robertson, Pan, & Deekens, 2010).

From the perspective of self-regulated learning, Zimmerman (2008) noted that self-reflection is influenced by goal setting because of two reasons. First, by being the objective of behavior, goals serve as comparison points for evaluation if self-monitored outcomes are consistent with the forethought. Students' awareness of and attempts to refine strategies to yield outcomes aligned with their goals would help develop self-reflection. Second, students often gain a sense of satisfaction upon fulfillment of goals, which in turn would lend impetus to enhancing and sustaining reflective practice.

3. Research questions

Although we understand that goal setting is important for self-reflection in principle, little is known about what kind of goal is more conducive to a higher level of reflection within the ePortfolio context. The main purpose of this study, therefore, was to address