Chapter IX
Enhancing Self–Regulation and Goal Orientation with ePortfolios

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ABSTRACT

This chapter reviews the self-regulatory learning and goal orientation literatures. Findings from these literatures are used to make specific recommendations for the effective design and use of electronic portfolios in order to increase academic learning. Specifically, the authors recommend that electronic portfolios provide the means for students to set learning goals, monitor and regulate their progress toward these goals, as well as develop their self-assessment skills. Additionally, they suggest that these goals be focused on learning objectives rather than performance objectives.

INTRODUCTION

Portfolios have many uses. They are often used as a tool for assessing classroom learning. Portfolios are also used as a tool for job applicants to demonstrate their experience, skills, and abilities to prospective employers. Additionally, portfolios may serve as a tool for facilitating learning. Electronic portfolios are advantageous because they allow students to simultaneously use the same source files for *all* of the above listed purposes. The technology associated with ePortfolios makes it possible for students to store all of their academic work, while allowing prospective employers access only to the work that best demonstrates their abilities. Additionally, ePortfolios allow professors and teachers to see and evaluate student progress. ePortfolios have many uses, but this chapter will focus on the ePortfolio as a tool to promote development and learning. Specifically, we will examine two streams of research to discern what they imply for effective practice in using ePortfolios. ePortfolios can foster

self-regulated learning and also can serve as a framework for inducing a more effective goal orientation. This chapter reviews the research literature, examining findings pertaining to self-regulatory learning and goal orientation. The chapter also offers recommendations for improving the design and use of ePortfolios in a manner that is consistent with the research findings.

SELF-REGULATED LEARNING

Self-regulated learning serves as an effective tool for increasing metacognition, motivation, and task engagement—all of which are associated with increased learning and improved academic performance (Paris & Paris, 2001). Self-regulated learning refers to the process by which people manage and control their thoughts, motivation, and behaviors in order to pursue learning goals (Paris & Paris, 2001; Pintrich, 2004). According to Boekaerts and Corno (2005), self-regulatory learning theorists " ... assume that students who self-regulate their learning are engaged actively and constructively in a process of meaning generation and that they adapt their thoughts, feelings, and actions as needed to affect their learning and motivation" (p. 201).

Pintrich (2004) outlines four stages of self-regulated learning: goal setting, monitoring, regulation, and reflection. Often, these stages occur implicitly, rather than explicitly. Additionally, these processes may co-occur. Applications and recommendations for ePortfolios will be discussed as they pertain to each of the above-listed stages.

Goal Setting

There is an extensive body of research in both academic and workplace settings demonstrating the positive effects of goal setting. Perfor-

mance is higher for students who "set specific goals, effectively use feedback, and make appropriate strategy attributions" (Boekaerts & Corno, 2005, p. 215). Locke and Latham (2002) describe four mechanisms through which goals increase performance. Goals increase performance because they enable a person to focus on the goal, lead to increased effort and time directed toward the goal, and cause people to use prior knowledge, skills, and abilities as well as develop strategies for goal attainment. Previous research findings have demonstrated that goals that are both specific and difficult lead to higher levels of performance (Locke & Latham, 1990, 2002). In addition, findings have shown that goal commitment and feedback moderate the effectiveness of goal setting such that performance is higher when people are committed to goals and receive feedback as to their progress toward goals (Locke & Latham, 1990, 2002).

Based on the findings from research on goal setting, we suggest that ePortfolio software should provide space and prompt students to outline their learning and developmental goals. Additionally, the design of the ePortfolios should encourage students to set specific and challenging goals.

Monitoring

Monitoring refers to the process by which people assess their progress toward their goals. Bell and Kozlowski (2002) give prescriptive information about what types of feedback are most effective. They studied the effects of adaptive guidance on learning and performance on a learner-controlled training task. In a learner-controlled environment, people control how, when, what, and how often they study. Adaptive guidance goes beyond the typical feedback that is provided to individuals in training. Adaptive guidance provides individuals with suggestions on which content areas to focus on and

suggestions for strategies to improve those areas. Adaptive guidance was positively related to learning and learning transfer for participants undergoing radar-tracking training (Bell & Kozlowski, 2002). The use of ePortfolios can be improved by providing users with more guidance on which skills and knowledge areas to improve on and suggestions for how to improve those areas.

Previous research has demonstrated the effectiveness of self-monitoring on learning and performance. Kauffman (2004) found that when college students were prompted to monitor their learning (in the form of making confidence judgments about their learning), students performed higher on the quizzes. Veenman, Elshout, and Busato (1994) demonstrated that students who were prompted to self-monitor had better learning strategies and were more knowledgeable after completing a computer-based educational unit on electricity.

Based on these findings, we recommend that instructors incorporate self-monitoring with their use of ePortfolios. Instructors should encourage and perhaps require that students regularly assess their progress toward their learning goals. The monitoring process may be further enhanced through the process of reflection or self-assessments. Reflection and self-assessments are discussed further below.

Ideally, the space for setting goals should be electronically linked to spaces for instructors and advisors to provide students with feedback about their progress toward these goals.

Regulation

Gollwitzer's work on implementation intentions provides further insights into effective strategies for setting goals as a means for learning and development. According to Gollwitzer (1999): "Implementation intentions are subordinate to goal intentions and specify the when, where, and how of responses leading to goal attainment" (p. 494). Thus, in a sense, implementation intentions are specific strategies that assist people in attaining goals. Gollwitzer and Brandstätter (1997) found that implementation intentions increased the probability of a person attaining a goal.

Thus, ePortfolios should provide space, and students should be prompted to outline strategies (the when, where, and how) for attaining each of their goals.

Reflection

In order to effectively set and pursue goals, people must be able to accurately assess their knowledge and abilities. This process of self-assessment primarily occurs through metacognition. According to Schmidt and Ford, "Individuals engaged in metacognitive activities actively monitor their progress, determine where problems exist, and adjust their learning strategies accordingly" (2003, p.406). Previous research demonstrates that interventions aimed at increasing metacognitive activity are related to increases in performance on learning outcomes (Schmidt & Ford, 2003).

Self-assessment, as a form of metacognition, is effective because it causes students to evaluate the causes of their performance. Understanding and identifying the causes of success and failure may further assist students in developing strategies for success (Olina & Sullivan, 2004). The construction of portfolios increases metacognition by providing students with natural opportunities for self-assessment and self-reflection (Commander & Valeri-Gold, 2001; Hamm & Adams, 1992).

The potential of ePortfolios to increase learning can be enhanced if students are prompted to assess and reflect upon the work they include in their portfolios. Previous research demonstrates that students are not always accurate at self-assessment, and this can decrease the potential of self-assessments to improve performance

(Olina & Sullivan, 2004). Therefore, any inclusion of self-assessment and self-evaluation in ePortfolios should provide students with guidelines for self-assessment. This should increase the quality of student self-assessments and, as a result, the potential for self-evaluations to improve performance.

Guidelines for reflections should encourage students to relate classroom work to their goals. Students should explain how the work demonstrates progress toward goals. Additionally, students should be encouraged to evaluate the strategies they used to complete the assignment. This evaluation of strategies should allow students to determine what sorts of strategies are effective and how they might be modified to improve performance.

ePortfolios should also allow students to link their self-assessment with feedback provided by instructors (see above). This will allow students the opportunity to compare one's self-assessment with the assessment completed by someone else. Discrepancies between the assessments can be observed, and students have the opportunity to recalibrate their self-assessment.

The research literature shows that ePortfolios that include the features listed above are likely to be more effective in promoting student success and improving academic performance.

GOAL ORIENTATION

Research has identified two general categories of achievement goals: learning goals and performance goals (Grant & Dweck, 2003). Learning goals are aimed at growth and improvement, whereas performance goals are related to achieving some specific level or quantity of performance. Learning goals, in comparison to performance goals, are associated with higher levels of challenge seeking behaviors, task per-

sistence, learning transfer (Dweck, 1986), classroom performance and improvement, and intrinsic motivation (Bell & Kozlowski, 2002; Grant & Dweck, 2003). Bell and Kozlowski (2002) found that a learning goal orientation is associated with higher levels of self-efficacy. Additionally, Bouffard, Boisvert, Vezeau, and Larouche (1995) found that a learning goal orientation is positively related to self-regulatory activities (including cognitive strategies, metacognitive strategies, and motivation) among college students. Other research has also found a positive relationship between a learning orientation and metacognitive activity (e.g., Ford, Smith, Weissbein, Gully, & Salas, 1998; Schmidt & Ford, 2003).

Although much of the goal orientation literature characterizes goal orientation as an individual characteristic, there is also evidence that specific goal orientations can be induced by situational characteristics (Grant & Dweck, 2003; Kozlowski et al., 2001).

Classroom settings that emphasize learning, effort, challenge, and errors as diagnostic feedback induce learning or mastery orientation, whereas settings that emphasize the achievement of high grades and minimization of mistakes induce a performance orientation. (Kozlowski et al., 2001, p. 5)

A learning orientation can also be induced by having people focus on strategies for learning rather than performance outcomes (Winters & Latham, 1996). Additionally, researchers have found that an induced learning goal orientation can improve performance on learning outcomes above those effects caused by trait-like learning orientation (Kozlowski et al., 2001).

ePortfolios can provide a means for inducing a learning orientation because they can direct the student's attention to goals focused

on learning rather than on goals strictly associated with performance. By focusing students' attention on goals associated with learning, rather than simply grades, ePortfolios have the potential to encourage students to challenge themselves as well as to more effectively develop their skills and abilities.

Additionally, ePortfolios can affect the way that feedback is given to and processed by ePortfolio users. When feedback is perceived as a tool for determining areas that need improvement, rather than as an evaluation of ability, this feedback has a greater potential to be used for developmental growth (Kozlowski et al., 2001). Therefore, ePortfolios should be designed in such a way that feedback given to students is independent of course performance evaluations. Students should be cued and encouraged to use the feedback to set developmental goals.

ADDITIONAL RESEARCH

Wade and Yarbrough (1996) conducted a study to examine the effectiveness of portfolios for increasing reflective thinking among education students. Although the researchers found that portfolios were effective for increasing reflective thinking, they also found that many students struggled with understanding the portfolio process. More effort needs to be placed on educating students about the purpose of portfolios. Furthermore, institutions should provide guidance on how to best use ePortfolios so that the potential for ePortfolios as a learning tool can be more fully realized.

Tillema (2001) compared three types of portfolios (showcase, course-based, and reflective) and found that people using a reflective portfolio were more receptive to feedback and demonstrated the greatest improvement in performance. This study highlights the need to clarify the objectives of the portfolio. Developers of ePortfolios are challenged, then, to develop ePortfolios in such a way as to emphasize the developmental purpose of the portfolio and make them useful for showcase purposes.

CONCLUSION

In summary, ePortfolios can be an effective learning tool because they provide students with the opportunity to collect their work and reflect on their learning progress. In order to improve the use of ePortfolios, we recommend that the design of ePortfolios explicitly include a goal-setting element. This goal-setting element should provide students with the opportunity to set learning and developmental goals. Students should be discouraged from setting strictly performance type goals. Furthermore, we recommend that students be encouraged to set specific and challenging goals, and develop specific strategies for attaining those goals. Additionally, ePortfolios should provide the space for instructors and advisors to provide feedback to students about their progress toward those goals. This feedback should include specific recommendations to students about how to best attain their goals.

Students should also be encouraged to regularly monitor their progress toward their learning goals. Students should also be encouraged to assess and reflect upon their work. This reflection process should require that students relate their work to their goals and evaluate the strategies they used to complete the work. Self-assessment can be improved if students have the opportunity to compare their self-assessments with the assessments made by others.

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KEY TERMS

Critical Thinking: Cognitive skills or strategies that increase the probability of a desirable outcome; used to describe thinking that is purposeful, reasoned, and goal directed—the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions when the thinker is using skills that are thoughtful and effective for the particular context and type of thinking task. Critical thinking also involves evaluating the thinking process. *See Reflection and Metacognition.*

Goal Orientation: Distinguishes between goals that either focus on learning as the outcome or performance as the outcome.

Metacognition: Process by which a person thinks about his/her own thought process.

Reflection: A key strategy for becoming an outstanding performer is to ask yourself, after each and every performance, "What did I learn from doing this?" The practice of thinking about and analyzing your performance is called "reflection." It might also be called "self-assessment," "metacognition," "do differents," or "an after-action review."

Self-Assessment: Process by which a person evaluates his/her skills, abilities, learning progress, and performance.

Self-Efficacy: A person's evaluation of his/her ability to behave and perform in desired ways.

Self-Regulated Learning: Process by which a learner sets his/her own learning goal(s), assesses and monitors progress toward those learning goals, and makes modifications in order to increase progress toward the learning goal(s).