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Home
Contents

Fostering Self-regulation in Distributed Learning

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Abstract

Although much has been written about fostering self-regulated learning in traditional classroom settings, there has been little that addresses how to facilitate self-regulated learning skills in distributed and online environments. This article will examine some such strategies by specifically focusing on time management. Specific principles for fostering self-regulated learning by enhancing time management skills in distributed learning environments will be discussed.

Self-regulation and online learning

On many college campuses today, new students have the option to participate in freshman seminar courses or orientation programs designed to facilitate the acclimation to the college environment by teaching students study skills, time management, and various other components of living and learning on campus. One such course, Learning to Learn (Hofer, Yu & Pintrich, 1998), located and taught at the University of Michigan, based its strategies on the notion that self-regulated learning (SRL) is an important aspect of student academic performance and achievement in classroom settings. Similar programs have been implemented in the K-12 arena as well (see Zimmerman, Bonner & Kovach, 1996). Although these programs have become more prolific as more evidence has been provided regarding the positive effects of SRL on academic performance (Hofer, 1998), there is a considerable lack of guidance as to how to implement similar strategies in online learning environments.

There are, however, studies emerging that begin to examine the impact of SRL in distance and distributed learning environments; specifically, whether SRL strategies should be implemented in a similar fashion to those that are implemented within traditional classroom environments, and whether there is a need to develop and recommend additional SRL strategies (Whipp & Chiarelli, 2004; Cennamo, Ross & Rogers, 2002; Loomis, 2000; Kitsantas & Dabbagh, 2004). These studies begin to provide general evidence SRL can be facilitated in distributed learning environments. They also begin to provide guidance on general web-based pedagogical tools that can facilitate such learning outcomes.

For example, Whipp and Chiarelli (2004) describe findings from case study research that investigated the general question of how SRL

strategies could be translated to online environments and attempted to identify whether SRL strategies recommended for traditional classroom instruction could, in fact, be applied to online learning environments or if additional/different strategies were needed. This study enlisted graduate students that were enrolled in an online education course that heavily utilized many components of a learning management system to deliver course content. During their participation in the course, participants were interviewed on strategies utilized as well as motivational and environmental influences on their use of SRL strategies.

Whipp and Chiarelli (2004) concluded that some traditional SRL strategies were directly applicable to the online learning environments. However, they also found that there was a need to adapt significantly their strategies in a web-based environment in order to succeed. Specifically, participants cited the need for careful time management, utilizing traditional methods such as calendars and goal setting. However, in addition to utilizing traditional time management strategies, students also described their need to incorporate additional strategies such as daily logons, coordination of online work and planning for technical problems. Additionally, participants also cited the need for interaction with other students as a strategy needed to maintain motivation. They also affirmed the importance of web-based course schedules and assignments to make planning and time management easier. Whipp and Chairelli (2004) summarize their findings by affirming that SRL can be helpful in facilitating learning in online environments, but that additional SRL models need to be developed that account for distributed learning processes that most of are encouraged in web-based courses.

While Whipp and Chiarelli (2004) investigated the general feasibility of applying traditional SRL strategies in an online learning environment, the studies of Cennamo, Ross and Rogers (2002) and Kitsantas and Dabbagh (2004) attempt to identify specific web-based tools that can be used to facilitate SRL in web-based environments. Cennamo, Ross and Rogers (2002) chronicle the design and development of an online human development course in which a web site was designed specifically to scaffold students while they learned valuable self-regulation skills. The specific strategies in this course included utilizing topic outlines and study guides, providing structured and individualized feedback, and providing resources for additional skill development. Cennamo, Ross and Rogers (2002) implemented SRL strategies into the course by using pedagogical tools contained in a course website. The website, which evolved over a couple of years, was named GAME (Goal, Action, Monitor, and Evaluate) to provide students with a constant reminder of the steps to follow in a self-directed/self-regulated learning process. The specific tools utilized to facilitate this process included a goals checklist, an online grades feature, and various mechanisms through which the students could receive feedback. The authors cited students' repeated affirmation that the structure and content of the course facilitated their learning. As such,

they recommend (a) integrating areas such as goal setting, (b) supporting students' use of reviewing strategies, (c) providing online assessment and skill practice, and emphasizing patience and flexibility on the part of the instructor as general strategies to facilitated self-regulation skills.

Based on results after administering the Motivated Strategies for Learning Questionnaire (MSLQ) during the second and sixteenth weeks of class, Cennamo, Ross and Rogers (2002) found a significant increase in SRL, decreased test anxiety and increased self-efficacy for learning and performance. In addition to the data obtained by administering the MSLQ, additional interviews with students confirmed that engaging in the aforementioned SRL strategies and having access to the tools that were intentionally built into the course did, in fact, encourage such skill acquisition.

The study undertaken by Kitsantas and Dabbagh (2004) aligns its research goals with the previous two studies by investigating what self-regulated learning "looks like" in a distributed learning environment. Additionally, Kitsantas and Dabbagh (2004) investigated how some very specific web-based pedagogical tools (WBPT) within course management systems may be able to facilitate SRL strategies and processes. Kitsantas and Dabbagh (2004) frame their study by categorizing web-based tools according to (a) administrative tools, (b) collaborative and communication tools, (c) content creation and delivery tools, and (d) hypermedia tools. By doing so, they are then able to investigate how the use of such tools support students' self-regulated learning in a distributed learning environment.

After correlating web-based pedagogical tools with self-regulatory processes, Kitsantas and Dabbagh (2004) engaged students in a distributed learning experience that web-based pedagogical tools with the goal of facilitating higher levels of self-regulated learning, Kitsantas and Dabbagh (2004) administered the MSLQ at the beginning of the semester and, at the end of the semester, administered the supporting self-regulation on the web questionnaire (SSRW-Q) to determine whether the four categories of web-based pedagogical tools supported six processes of SRL -- goal setting, self-monitoring, self-evaluation, time planning and management and help seeking.

Kitsantas and Dabbagh (2004) found that (a) goal setting was supported primarily through the use of content creation and delivery tools, and collaborative and communication tools; (b) administrative tools supported the self-regulatory process of self-monitoring; (c) content creation and delivery tools supported self-evaluation; (d) collaborative and communication tools assisted students with time management and planning strategies, and (e) both collaborative and communication tools and administrative tools supported students' help seeking behaviors. These results indicate that self-regulated learning can be facilitated in web-based environments and that, especially when utilizing a course management system, there are specific tools available

that can effectively facilitate specific dimensions within the process of self-regulation.

While both Cennamo, Ross and Rogers (2000) and Kitsantas and Dabbagh's (2004) studies provide evidence that there are many tools and strategies that can be utilized to facilitate self-regulated learning in online environments, a study by Loomis (2000) specifically validates the importance of the role of time management in distributed learning environments and affirms the need to develop strategies to facilitate students' time management skills.

Loomis (2000), as with the prior studies, also engaged students in a distributed learning experience in an attempt to discern which students' strategy use, or learning styles, influenced their performance. Loomis utilized the Learning and Study Strategies Inventory (LASSI) scale to attempt to correlate individual learning and study strategies with students' success in the distributed learning environment. The LASSI, which consists of ten scales that measure attitude, motivation, time management, anxiety, concentration, information processing, selecting main ideas, study aids, self testing and test strategies, was administered at the beginning of the semester and the data was later correlated with their performance on exams, the final class group project, chapter assignments and journal article reports.

Loomis' (2000) findings indicate that there were significant associations between five of the LASSI scales – attitude, time management, concentration, selecting main ideas and study aides -- and overall student performance. The strongest correlation amongst the findings was between time management and total class points, indicating that students' ability to manage time in distributed learning environments is a predictor of their ability to succeed. Loomis also cites that students who reported a weakness in managing their schedules received lower final grades than those who cited a higher ability to manage their time.

When synthesizing Kitsantas and Dabbagh's (2004) findings regarding the feasibility of utilizing web-based pedagogical tools with Loomis' (2000) specific findings regarding the importance of utilizing time management skills to succeed in online environments, while additionally contextualizing those findings within the framework of the general findings of Whipp and Chiarelli (2004) and Cennamo, Ross and Rogers (2002) the construct of time management emerges as an important component of the self-regulated learning process and, more specifically, its importance in distributed learning environments.

Time management and self-regulated learning

The issue of time management is one that has been studied and researched from within a variety of contexts and has been identified both as a predictor of academic performance (Britton & Tesser, 1991; Loomis, 2000; Macan, Shahani, Dipboye & Phillips, 1990; Trueman &

Harley, 1996), and as an anticipatory strategy that can prompt students to use other self-regulatory processes (Zimmerman, Greenberg & Weinstein, 1994). Several academic programs have attempted to include time management instruction into their curricula as a means to engage students in the acquisition of strategies to enhance learning (see Hofer, Yu & Pintrich, 1998, Zimmerman, 1996). While only a few programs have begun to investigate time management as a viable strategy to include in distributed learning environments (see Cennamo, Ross and Rogers, 2002). Time management has been conceptualized through a variety of theoretical lenses ranging from aptitude-trait theories (Carroll, 1963; Gettinger & White 1979) to operant theories (Keller, 1968). Most predominantly and currently, however, the concept of time management as a strategy to enhance student learning has been conceptualized and investigated from within the social cognitive view where it is aligned with triadic self-regulatory processes that encompass behavioral, environmental and personal learning strategy influences (Bandura, 1986, Zimmerman, 1989).

Given both the empirical research that has tied effective time management to student achievement (Britton & Tesser, 1991; Woolfolk & Woolfolk, 1986), the theoretical foundation that connects time management processes and strategies to social cognitive theories of learning (Zimmerman, Bonner and Kovach, 1996), and findings from the aforementioned studies related to its prominent role in online learning, it seems necessary to provide principles for facilitating effective time management practices in distributed learning environments. The following section will provide principles for doing so with the goal of enhancing self-regulation in distributed learning environments.

Five strategies for facilitating time management and self-regulated learning in distributed learning environments

The following provides an overview of strategies for time management in distributed learning environments.

Strategy #1: Clearly communicate deadlines and due dates

Most learning management systems contain a calendar feature in which instructors can list due dates. The interface developed by Cennamo, Ross and Cosby (2002) featured a calendar-like feature in which all assignments and course materials were associated within the weeks on the calendar while data from Whipp and Chiarelli (2004) also indicates the calendar as being a valuable tool which provides students with the ability to see due dates and deadlines.

Strategy #2: Encourage goal setting

Goal setting is an integral part of the SRL process and has been identified by Zimmerman (1998) as a primary subcomponent of the forethought phase of SRL. The research by Cennamo, Ross and Rogers (2002) affirmed the importance as the integrated a goals

checklist which allowed students to create their own time dependent goals, which were then emailed to the students. Encouraging and facilitating a process in which students can break down larger course goals into more attainable, proximal goals engages them in the forethought process of SRL.

Strategy #3: Provide checklists and organizers

Zimmerman (1998) includes self-monitoring as a subprocess of the performance/volitional control phase of SRL. The structure of the intervention developed by Cennamo, Ross and Rogers (2002) provided students with checklists based on their course tasks listed in the calendar-like structure. Providing students with “to do” lists or check-lists that include content and strategy related information can scaffold the self-monitoring process and encourage them to set proximal goals based on lists of tasks and organizers.

Strategy #4: Provide feedback

Feedback has been widely researched as a valuable part of the SRL process as it provides students with the information needed to compare their performances with their goals and thus self-evaluate their progress (Schunk, 1994). Self-evaluation is cited by Zimmerman (1998) as being a component of the self-reflection phase of the SRL process and is therefore a vital component of learning SRL skills. Feedback can be provided using a variety of tools in distributed learning environments. For example, asynchronous tools such as discussion board postings or automated quiz feedback can communicate valuable progress information as can synchronous tools such as chat rooms and virtual office hours.

Strategy #5: Scaffold regular check-in processes

As cited in the Whipp and Chiarelli (2004) study, “daily logons” were mentioned as a planning strategy that was needed that was additional to traditional SRL strategies. This strategy can be accomplished as part of the goal setting and checklist creation process, which are all component parts of Zimmerman’s (1998) forethought phase. As students are encouraged to set proximal goals, and are provided with scaffolds to do so (e.g., checklists and organizers), and are provided with feedback at regular intervals, they will be encouraged to interact with the material on more regular intervals necessitating more frequent check-ins, and as such, will be engaged in a more consistent process of forethought, self-observation and self-reflection.

The variety of tools now contained within most learning management systems provides instructors with a wide array of options for facilitating time management and SRL skills. From group posting areas (e.g., calendars, content modules, syllabus postings) to collaborative tools (e.g., discussion boards, group chat and project areas) and beyond, students can be engaged in rich instructional

experiences in distributed learning environments that provide them with the scaffolds and experiences needed to manage their time and become self-regulated learners.

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Contents
