Chapter 17

Mark–UP: Promoting Self–Monitoring of Reading Comprehension through Online Environment

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ABSTRACT

While reading skills are an accepted key skill both for life and study, the capacity to read critically and apply reading concepts to solve problems and develop higher order conceptual understandings requires a high level of cognitive self-regulation that students do not always have. This chapter describes the development of and research into an environment, Mark-UP, designed to promote the self-monitoring inherent in regulating reading comprehension. The environment consists of a range of tools to assist learners in monitoring their comprehension through annotation, discussion, problem-solving and so on. The tool was applied to a class of undergraduate students in Interface and Information Design at an Australian university. The research involved questionnaires of the whole cohort as well as case studies of a number of student experiences with the environment, using interview and analysis of the students’ portfolios. The study found that, concerning students with weak academic skills, Mark-UP provided some support for their learning, but for stronger students it replicated cognitive strategies that they had already developed. The product was most effective for those students with moderate existing academic skills as it articulated and modeled strategies for reading that they could apply and go beyond to develop their own cognitive regulatory strategies for reading.

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INTRODUCTION

Care needs to be taken when attempting to define environments to support self-regulation, particularly online learning experiences which by their very nature seem already to make demands on students’ abilities to regulate their learning. There is a high drop-out rate for students with poor study skills when they venture online (Loomis, 2000). Brooks (1997, p. 135) claims that students ‘who are poor at self-regulation easily can be slaughtered in WWW-based courses’.

The reality of some online courses is that they place learners in purely independent mode without providing the toolset required to assist students in becoming better learners. If this is to happen courses need to be designed not just to meet specific unit outcomes but also to scaffold the development of learner’s self-regulatory skills. This student-centred focus, characteristic of contemporary educational philosophy, seeks to empower the learner rather than to ‘teach’ the learner through a traditional learning approach based on knowledge transfer (Jonassen & Land, 2000) and is a frequently cited focus of on-line learning, where students are expected to engage in academic texts with typically little or no direct instruction on their comprehension (Reeves & Reeves, 1997).

One important use of the Internet is as a means of accessing course readings, either in the form of Web pages or as electronic documents, such as PDF resources. It provides an efficient and maintainable means of dissemination. The approach of providing several electronic readings rather than a single text also promotes the multiple perspectives inherent in contemporary approaches to learning, such as those espoused in cognitive flexibility theory (Spiro, Feltovich, Jacobson, & Coulson, 1992). However, it is erroneous to assume that students entering tertiary education are able to engage effectively in readings in a self-regulated way. There is a difference between learning to read and reading to learn. Most students have little difficulty with the building blocks of reading such as phonics, but even by their final year of secondary education, studies have shown that only 40% of students can be identified as ‘proficient’ at the level of reading that involves engagement ‘in higher level, problem solving literacy of the kind required in an information generating and information transforming economy’ (Greenleaf, Schoenbach, Cziko, & Mueller, 2001, p. 83).

Reading comprehension itself can be classed as a generic skill. While the purpose of this study is not to attempt to promote reading comprehension skills per se, the metacognitive processes inherent in the task makes for a strong relationship to self-regulation:

The ability to read critically is widely regarded as one of the essential generic skills that should be gained through university education. It is often assumed that students will acquire the ability to read critically simply by virtue of studying at University without active intervention from their teachers. We aspire for our students to read with a critical eye in order to develop their own reasoned and ethical position. However, the reality is that students often read as passive consumers of information. (Wilson, Devereux, Macken-Horarik, & Trimingham-Jack, 2004, p. 341)

Research has shown that metacognitive knowledge and self-regulation facilitate reading comprehension (V. L. Collins, Dickson, Simmons, & Kameenui, 2001) but this is an end-product rather than a process. One cannot assume that simply placing students in a mode of study that requires self-regulation will help to promote it. Rather than throw students ‘in at the deep end’, mechanisms must be in place which bridge the nexus between supported and self-regulated learning.

Proactive measures need to be taken to assist students in developing the necessary skills to learn independently. It would seem possible that an appropriately designed and implemented on-line environment could both minimise student
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