Chapter 19

Socially Shared Metacognition Among Undergraduate Students During an Online Geology Course

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ABSTRACT

The ability to collaborate successfully with others is a highly valued skill in the modern workplace and has been reflected in the increase of collaborative learning methods within education. Research has highlighted the crucial role of self-regulation in successful collaboration, and more recently begun to focus on understanding how groups jointly regulate their interactions. The current chapter outlines a mixed-methods study that compared the impact of individual- and group-centered prompts on the frequency of social metacognitive activities during online group review activities with college students (N=48) from the USA. Tentative study findings suggested that group-centered problematizing prompts were moderately successful in shifting groups towards more social forms of regulation such as co-regulation; however, they were not enough to move groups towards shared metacognitive regulation. Further results revealed how the quality of group engagement was influenced by participants’ perceived value towards activities, function and focus of metacognitive episodes, and group dynamics.

INTRODUCTION

Theoretically, there has been an acknowledgement of the importance of social context for the develop-
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ment of regulation (e.g., Schunk & Zimmerman, 1997). However, research investigating self-regulation in collaboration has predominantly focused on individuals and their contribution to the group, with a limited amount of work investigating the impact of social regulatory processes of the group as a whole (Panadero & Jarvela, 2015; Volet, Vauras, & Salonen, 2009). Researchers have therefore looked to re-contextualize self-regulated learning (SRL) in social/collaborative settings, and expand conceptualizations of regulation to understand how groups jointly regulate their cognitive, behavioral, and motivational strategies in collaborative work (termed socially-shared regulation), and how this affects their learning experience as a group (Hadwin et al., 2011).

Over the past decade, there has been a rise in the occurrence of literature aimed at both understanding social regulation across age groups and domains, as well as the differences between high and low regulating groups (Panadero & Jarvela, 2015). However, despite prior research providing the field with an understanding of how social regulation occurs, relatively little is known about what impacts or how to foster social-regulatory processes.

The current chapter outlines a study that compared the effectiveness of individual or group-centered prompts in increasing the frequency of social metacognitive activities during online group review activities with college students. The study had three main objectives: 1) understand how socially-shared regulation occurs in collaborative learning groups of college students within an online introductory geology course, 2) explore how this form of regulation can be fostered in groups, and 3) understand the practical implications of embedding a regulatory framework in online collaborative learning environments.

BACKGROUND

The theoretical framework for the current chapter combines elements from different theoretical perspectives, presented as a hierarchical model: 1) Collaborative learning is the most generic level of the theoretical framework model, framing the context in which the study is situated, 2) Within this, and viewed through the lens of collaborative learning, is regulation of learning which comprises three forms of regulation spanning the social/collaborative continuum (self-regulated learning, co-regulated learning, and socially-shared regulation of learning), and 3) Metacognition, the construct of focus in the current study, is placed in the lowest level of the theoretical framework model. As a component of regulation, it is also viewed as occurring across the social continuum (individual, other, and social metacognition).

Collaborative Learning

In the broadest sense, collaborative learning refers to any situation in which two or more people learn (or attempt to learn) something together (Dillenbourg, 1999). Although vague, such a definition is useful to highlight the wide variety of interpretations made by researchers when conceptualizing collaboration. This variation encompasses not only those involved (two or more can encompass a small group, a class, or a community), but also the view of learning (e.g., following of a course, study of materials, or performing activities such as problem-solving), as well as how individuals interact (face-to-face or computer-mediated, frequent or infrequent in time, joint effort, or division of labor) (Dillenbourg, 1999).

A situation can be deemed more collaborative if the individuals collaborating are at the same level (in regard to knowledge and status), perform the same action, have a common goal, and work together. Alongside this, the interactions that take place in these situations are considered more or less collabora-