


Chapter 11

Self- and Socially-Shared Metacognitive Regulation and Engagement in Online Collaborative Discussions: Constructs and Students' Characteristics

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ABSTRACT

The purpose of this study was twofold. First, the study developed two survey instruments that measured students' metacognitive practice and social and emotional engagement in online collaborative discussions. Both instruments were developed by modifying from existing scales and empirical studies. An exploratory factor analysis (EFA) was employed to extract the underlying factors revealed by both instruments. The results of the study demonstrated that metacognitive practice in online collaborative discussions (MP-OCD) could be separated into four factors, while social and emotional engagement in online collaborative discussions (SEE-OCD) could be extracted into two factors. Second, the study used validated survey instruments to characterize college students' online collaborative discussion profiles. The results showed that four clusters of online collaborative discussion profiles were identified. This study has significant implications for educators who wish to improve students' metacognitive regulation and social and emotional engagement in online collaborative discussions.

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INTRODUCTION

Metacognitive regulation and engagement play crucial roles in determining learners' achievements and performance in cognitive tasks in online learning environments (Martin & Bolliger, 2018; Ohtani & Hisasaka, 2018). In particular, online learning environments that emphasize collaboration and interaction among learners are often characterized by elevated levels of social and emotional engagement and the use of metacognitive strategies, which are key factors that encourage learners to remain active (Isohätälä et al., 2017, 2020; Molinillo et al., 2018; Shearer et al., 2020).

However, previous studies (e.g., Garrison & Akyol, 2015; Hadwin et al., 2018; Isohätälä et al., 2017; Ucan & Webb, 2015) have called for more emphasis on expanding the aspects of metacognitive regulation in online learning contexts to encompass social aspects of regulation as opposed to individualistic aspects (i.e., self-regulation). This is because in online learning environments learners are highly encouraged to both learn autonomously and learn by socializing, interacting, and collaborating actively with teachers, classmates, and even outsiders who may be knowledgeable about the topics in which learners are interested (Shearer et al., 2020; Slof et al., 2021).

Socially shared metacognitive regulation entails the ability to regulate an individual's and others' learning process, especially in collaborative learning situations. This social form of regulation relates closely to how individuals engage socially and emotionally in their learning, as research has indicated that shared emotion is paramount for maintaining reciprocal interactions and establishing a supportive socio-emotional atmosphere among group members (Isohätälä et al., 2020; Järvelä et al., 2016; Ucan & Webb, 2015). Moreover, socio-emotional interactions among group members during the learning process of collaborative learning activities (e.g., discussions, group roles, and task execution) can potentially shape the quality of socially regulated learning (Järvelä et al., 2016). Especially, through negotiation and co-construction of meaning learners are able to strive towards a mutual understanding of the task (e.g., Malmberg et al., 2017; Rogat & Linnenbrink-Garcia, 2011).

Consequently, in this chapter, the authors not only focused on learners' self- and socially shared metacognitive regulation, but also took into consideration the social and emotional aspects of their engagement when participating in an online collaborative learning context. More specifically, the authors directed their focus toward online collaborative discussions, as engaging in extensive conversations with peers and instructors is deemed one of the pedagogical practices that foster students' use of metacognitive regulation in the context of online collaborative learning (Akyol & Garrison, 2011; Shearer et al., 2020). Moreover, an online collaborative discussion activity provides insights into the various forms of metacognitive knowledge and skills that are developed during different phases of a collaborative project, especially when an individual contributes to group reflection (Papanikolaou & Boubouka, 2010).

Despite the acknowledged significance of both self- and socially shared metacognitive regulation and socio-emotional engagement in online collaborative learning contexts, there is still a necessity to design survey instruments for both constructs that are specifically customized for collaborative discussions. Given that online collaborative discussions are considered a form of domain-specific learning activity (Araos et al., 2023; Sjöberg & Brooks, 2022) and demands a high level of interaction, collaboration, and socialization (Rosé & Ferschke, 2016), in this study, two survey instruments were specifically developed. These instruments were designed to assess self- and socially shared metacognitive regulation and social and emotional engagement in online collaborative discussions, a pedagogical activity that can be unique compared to other individualized online learning activities. Furthermore, the authors sought

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