

# **Effects of Practicing Self-Monitoring of Mathematical Problem-Solving Heuristics on Impulsive and Reflective College Students' Heuristics Knowledge and Problem-Solving Ability**

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**ABSTRACT.** The authors designed a step-by-step self-monitoring method to help impulsive students overcome their unwillingness to self-monitor. They predicted (a) that self-monitoring in general would help student learning of the heuristics of solving mathematical problems, (b) that self-monitoring would be more helpful for the impulsive students than for the reflective students, and (c) that step-by-step self-monitoring would be more helpful for the impulsive students than an external reminder that provided cues for general self-monitoring. The first 2 predictions were supported by the results of the study. As for the 3rd prediction, general self-monitoring was found to be more beneficial than step-by-step self-monitoring for the impulsive students. The findings are discussed in terms of competition for cognitive resources between learning and self-monitoring.

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SELF-MONITORING is an effective way for students to enhance their learning and classroom behavior. Using various methods to manipulate self-monitoring, researchers have found that self-monitoring improves academic performance (McCurdy & Shapiro, 1992), reduces dysfunctional classroom behaviors of students with learning disabilities (Maag, Rutherford, & DiGangi, 1992), facilitates elementary students' performance on computerized problem-solving tasks (Del-