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Design of metacognition questionnaire on mathematics problem solving.

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Summary: Based on positive study, the present probed into the design of metacognition questionnaire on mathematics problem solving. The procedure was as the following: an inventory involving metacognitive knowledge, metacognitive experiences and metacognitive strategies was designed; and then it was conducted to middle school and college students for 3 times; finally, a data analysis by means of Explore Factor Analysis and Confirmatory Factor Analysis was carried out. The result suggested that the hypothesis was acceptable: the fitness between three-principal component & nine-sub component hypothesis and data was good, and the fitness between nine-sub component hypothesis and data was better than the fitness between three-principal component and data. Therefore, the result provided positive proof for the design of metacognition questionnaire on mathematics problem solving.

Classification: C30 D50

Keywords: problem solving strategies; research; components of metacognition; thinking; cognitive psychology; learning; educational psychology; cognitive ability