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Influence of sophomores' metacognition in mathematical problem solving on mathematical problem solving.

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Summary: An inventory and a test on mathematics problem solving were conducted to normal college students. The results suggest: (1) cognitive experience of metacognition has a significantly positive effect and regression on the assignment performance of simple problems; (2) metacognitive experience, evaluation, reflection, regulation and control of metacognition have a significantly positive effect on the assignment of complicated problems; but the assignment performance of complicated problems is regressed only on affective experience of metacognition and reflection of metacognition; (3) affective experience of metacognition, evaluation, reflection, regulation and control of metacognition have a significantly positive effect on the assignment of open-end problems; But the assignment performance of open-end problem is regressed only on affective experience of metacognition, reflection, regulation and control of metacognition; (4) in term of assignment performance of open-ended and complicated problems, the group of higher-level metacognition is significantly better than group of lower-level metacognition.

Classification: C30 D50

Keywords: research; educational diagnosis; mathematical ability; cognitive ability