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Darstellungen und Vorstellungen und ihre Bedeutung für eine wirksame Metakognition beim Problemlösen und Begründen

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Abstract. Metacognition has one of the highest effect sizes concerning successful learning. However metacognitive activities during task solving and problem solving are not directly obvious. But they can appear by writing someone's thoughts down. The following analysis, which focusses on the level of argumentation as well as on the way of derivation, shows that the quality of representation is an essential condition for the possibility of metacognition.

 $Key \ words \ and \ phrases:$ metacognition, external and internal representations, competencies, educational standards, problem solving, argumentation.

ZDM Subject Classification: C30, D40, D50.

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