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**Transfer of strategy use by semantic recoding in arithmetic problem solving.**

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Summary: Transfer of strategies between problems sharing the same formal structure is facilitated by a semantic recoding that makes evident the structural similarities between the problems. Two experiments were carried out among 4th and 5th grade pupils, with an experimental group trained to compare strategies in order to reinterpret an arithmetic word problem so that the calculations are consistent with the interpretation, and a control group. The experimental group in experiment 1 improved significantly by choosing the alternative strategy in problems different from those used in training but no significant progress was observed in the control group. Experiment 2 showed that the improvement observed in the experimental group could not be attributed to the fact that children only learned to use a superficial rule. These results support the idea that the activity of problem re-representation may be a crucial step in mathematization.

*Classification:* D52 D53

*Keywords:* experimental groups; control groups; semantics; word problems; arithmetic; problem solving; transfer of training; elementary school students; comparative analysis

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