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Cognitive load and modelling of an algebra problem.

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Summary: In the present study, I examine a modelling strategy as employed by a teacher in the context of an algebra lesson. The actions of this teacher suggest that a modelling approach will have a greater impact on enriching student learning if we do not lose sight of the need to manage associated cognitive loads that could either aid or hinder the integration of core concepts with processes that are at play. Results here also show that modelling a problem that is set within an authentic context helps learners develop a better appreciation of variables and relations that constitute the model. The teacher's scaffolding actions revealed the use of strategies that foster the development of connected, meaningful and more useable algebraic knowledge. (Contains 1 figure.) (ERIC)

Classification: C73 M13

Keywords: cognitive processes; elementary algebra; teaching methods; modeling; mathematical models; problem solving; scaffolding; mathematical concepts; grade 9; secondary school mathematics; high school students; educational research

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