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Controlling the work in Solving Initial Value Problems: Contrasting Introductory Calculus Textbooks.

I report the results of an analysis of 80 IVP examples in twelve introductory calculus textbooks (3 honors, 9 non-honors) regarding the availability of strategies for determining whether an action was relevant when solving a problem, deciding that a solution has been found, and deciding that the solution was correct or that it made sense in the situation (Balacheff & Margolinas, 2005). A common pattern was observed in all textbooks: the examples more frequently provided explicit information about deciding what to do to solve the IVP and ways to recognize the solution than about determining that the solution was plausible for the situation. A main difference between honors and non-honors textbooks was the length of the problems and their complexity, with honors textbooks offering more complex problems (as could be expected). These results are mediated by the actual use of textbooks given by students and instructors, the purpose of a follow-up study. Implications for practice are also discussed

Balacheff, N., & Margolinas, C. (2005). Modele de connaissances pour le calcul de situations didactiques. In Balises pour la didactique des mathematiques (pp. 1-32). Paris: La Pense Sauvage. (Received September 22, 2006)