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White, Nina; Mesa, Vilma

Describing cognitive orientation of Calculus I tasks across different types of coursework.

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Summary: We discuss the findings of an analysis of cognitive orientation of 4,953 mathematical tasks (representing all bookwork, worksheets, and exams) used by five instructors teaching Calculus I in a two-year college in the United States over a one-semester period. This study uses data from one of 18 cases from the characteristics of successful programs in college calculus. We found differences in the cognitive orientation by type of course work assigned (graded vs. ungraded) and differences by the instructors who assigned the course work. We discuss implications for practice and propose some areas for further exploration.

Classification: I15 D55 U25

Keywords: cognitive orientation of mathematical tasks; assessment; calculus; student coursework; graded coursework; ungraded coursework; textbook; problem posing

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