

1067-Z5-1007

Nicholas Gorgievski* (nick.gorgievski@nichols.edu), Nichols College, Center Road, Dudley, MA 01571, and **Thomas C DeFranco**, University of Connecticut, 249 Glenbrook Road, Storrs, CT 06269. *The Impact of the Spacing Effect and Overlearning on Student Performance in Calculus.*

In a Calculus course, homework problems can be assigned in various ways, through a massed distribution or through a cumulative distribution of problems. A massed distribution of homework problems is the traditional method of assigning problems which are blocked by type within a section. A cumulative distribution assigns problems from within a section and from previous sections. Research has shown that the cumulative assignment of mathematics homework problems can improve subsequent student test performance. Additionally, most mathematics textbooks rely on a format that emphasizes a common learning strategy called overlearning. By an overlearning strategy, a student masters a skill then continues to practice this skill. This learning strategy is common in mathematics since homework assignments tend to require students to solve many problems of the same type. This session will describe a study based on a quantitative research design that was employed in a large lecture Calculus I course at the university level to investigate the effects of massed versus cumulative practice and the overlearning strategy on student performance. Additionally, findings from the study and the implications for the teaching and learning of undergraduate mathematics will also be presented. (Received September 17, 2010)