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Erick Brian Hofacker* (UWRFMATH@ao1.com), UW-River Falls, 206D North Hall, River Falls, WI 54022. *The Effect of Different College Algebra Courses on Students' Understanding of Linear and Exponential Function Concepts.*

This study uses an evaluative case study design, using quantitative and qualitative methods, to explore differences between student cohorts based on the type of college algebra instruction they receive, contemporary (n = 95) or traditional (n = 75).

The effect of the two courses on students' understanding of linear and exponential functions is assessed using ten common exam questions. The exam questions cover both topics over five different objectives: procedural, conceptual, multiple solution methods, representation translation, and within-context. Results support a belief that students from the contemporary cohort may have a more connected and flexible understanding of the content.

Qualitative data is collected from twelve B level students. Students are asked questions about two different situations which can be modeled by a linear or exponential function. Students are evaluated based on their ability to navigate through the Lesh Translational Model and work with the content in different representation modes. Analysis of the qualitative data shows that students taking college algebra from a contemporary perspective may have more flexibility with their knowledge and understanding of the two function types when asked to present and discuss them in multiple modes. (Received September 27, 2006)