Difference in Self-Reporting Implementation of Instructional Strategies Using a Dynamic Geometry Approach

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ABSTRACT: *This study compares which self-reported implementation of instructional strategies using a dynamic geometry approach leads to students making conjectures, testing conjectures, and eventually proving their conjectures. The results of the linear regression model with proving conjectures as a response variable indicate that assigning student individual work as an instructional method negative effects or decreases the time student prompting to prove a conjecture by 11% regardless of the level of the geometry class. Making conjectures and testing conjectures were statistically significant and positively correlated with teachers who implemented class discussions. Furthermore, instruction that prompted group work had the largest positive correlation with Regular Geometry students proving conjectures. This is a research project funded by the National Science Foundation (Award# 0918744)*

Dr. Shawnda Smith is a Doctoral Teaching Assistant at Texas State University as she completes on her Ph.D. in Mathematics Education. She received her BA in Mathematics and MA in Mathematics from the University of Texas at Austin UTeach Program. She is a certified high school teacher for the state of Texas. She taught at Westlake High School in Austin for six years and also taught at Austin Community College and the Art Institute of Austin. Shawnda is interested in researching how students transition from high school mathematics to college level mathematics and Pedagogical Content Knowledge of pre-service teachers.

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She graduated from University of Texas at Austin with a BA in Mathematics and received her MEd in Mathematics Education from Texas State University. Her research interests involve investigating the Learning Strategies of college algebra students. She is also interested in exploring new technologies and digitial media trends that could improve the teaching & learning of Mathematics.