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Oscar Chavez* (oscar.chavez@utsa.edu), Department of Mathematics, One UTSA Circle, San Antonio, TX 78249, and **Ruthmae Sears** (ruthmaesears@usf.edu), Department of Teaching and Learning, College of Education, 4202 E. Fowler Ave., EDU105, Tampa, FL 33620. *Informal and formal proofs in geometry: Evidence from a large scale curriculum comparison study.*

Secondary students have difficulties in constructing proofs. There is variation in the attention to proof given in secondary geometry textbooks, which affects how students learn to prove. In this paper, we examine students' responses to two items in which students had to provide a proof for geometric statements. The first item was designed to elicit an informal argument and was included in a test for first year high school students; the second was a statement about congruent triangles, included in a test that these students took when they were in third year of high school. The tests were part of a longitudinal study on the effect of curriculum choice in U.S. high schools where students could freely choose to study mathematics using one of two types of content organization, an integrated approach or a (traditional) subject-specific approach. The study involved over 2000 high school students in 10 schools in 5 different states. We found that students were more likely to provide correct informal arguments than they were likely to write formal proofs after formal instruction in geometry. We suggest that teachers and curriculum developers should pay more attention to the opportunities they provide students to engage with proof, and the nature of these opportunities. (Received September 16, 2014)