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Stephanie R Nichols* (srnichol@gmail.com), 422 N Kenmore St, Arlington, VA 22201. *A comparison of Inquiry-Based Learning at the Undergraduate and Secondary Levels*. Preliminary report.

Mathematical proof and justification are essential to a strong mathematics education but very often students complete their mathematics studies with limited abilities to construct and validate mathematical proofs. Research and learning theory claim that participation in mathematical discourse provides opportunities for understanding. The use of inquiry-based learning is a way to address both of these issues. Many educational researchers have studied inquiry-based learning at all levels; however elementary classrooms have been the main focus of this type of learning. There are a growing number of educational researchers interested in this type of teaching at higher levels. I will share results of my dissertation research on student-to-student discourse in an inquiry-based transition to proof course, my experiences as a math educator leading workshops with mathematics faculty interested in changing their teaching, and my own experiences incorporating IBL in my high school Euclidean Geometry course. I will discuss the difficulties as well as the successes that I have experienced as a student, a mentor, and a new IBL instructor. (Received September 22, 2009)