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Spencer Payton* (spayton@math.wsu.edu). *Student mathematical connections in an introductory linear algebra course employing inquiry-oriented teaching.*

Mathematical connections are considered an important yet difficult aspect of an introductory linear algebra course. In an attempt to improve my teaching of mathematical connections, I explored how inquiry-oriented teaching could be used to provide opportunities for linear algebra students to develop connections. Specifically, I attempted to answer the following research questions: 1. What does it look like when a teacher attempts to incorporate inquiry-oriented teaching in an undergraduate introductory linear algebra class? 2. How do students take advantage of inquiry-oriented teaching to make mathematical connections in an introductory linear algebra class? Inquiry-oriented teaching was implemented in a limited capacity due to constraints such as a large class size and limited class time; inquiry was specifically reserved for the teaching of mathematical connections. Through a variety of inquiry-oriented activities, students were provided with several opportunities to develop mathematical connections. Results of the study suggest that these activities were successful in allowing students to develop their own interpretations of various concepts and that students' interpretations of those concepts may play an important role in the connections that students evoke. (Received February 22, 2017)