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Naima Naheed* (naheedn@benedict.edu). *Motivating Students for linear algebra by using puzzles.*

Linear algebra has become one of the most useful and powerful fields of mathematics since the last decade, yet students still have trouble seeing the connection between some of the abstract concepts and real world applications. A motivation first, theory second approach could be adopted to stimulate students' intellectual needs for learning. Two puzzles will be introduced in this talk. Through the first puzzle, students will develop a better understanding of rank, undetermined systems, and consistency in linear algebra. The other puzzle is a gossip network that will help students understand the physical meaning of matrix multiplication. This network is a popular reminiscent of the notion of "six degrees of separation", which suggest that any two people in the world are connected by a path of acquaintances, whose average length is six. By providing alternative learning activities students' understanding and retention can be enhanced and improved. (Received September 02, 2014)