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**Elise Lockwood\*** (lockwoel@math.oregonstate.edu), 338 Kidder Hall, Department of Mathematics, Oregon State University, Corvallis, OR 97331, and **Branwen Schaub** (schaub16@up.edu). *Student Interpretations of Textbook Statements of the Multiplication Principle.*

The multiplication principle (MP) is a foundational aspect of students' combinatorial activity, called by some the "fundamental principle of counting." Although it is an important idea in enumerative combinatorics, discrete mathematics and combinatorics textbooks vary widely in how exactly they state the MP, and students are not always attuned to mathematical details of the MP. Little has been studied about ways in which students think about and make meaning of this important principle. In order to investigate student reasoning about the MP, we had a pair of students reinvent a statement of the MP, and we then had them interpret a handful of textbook statements. In this talk, we share results from the students' reinvention, particularly focusing on their understanding of mathematical subtleties of the MP that appear in the textbook statements. These findings shed light on student understanding of the MP, and we discuss hypotheses about what aspects of the reinvention contributed to the students' being attuned to particularly subtle and complex mathematical issues. We conclude with implications for the teaching and learning of the MP and directions for future research. (Received September 16, 2015)