1135-97-2606   **Cameron Sweet*** (`csweet@math.wsu.edu`), Washington State University, Department of Mathematics and Statistics, Pullman, WA 99164-3113. *Symbol System Flexibility and Transfer in Multiplying Polynomials.* Preliminary report.

While there is an extensive amount of research demonstrating that the ability to relate one representation of a function to another is necessary for understanding the concept of function, there are few studies on using multiple representations to help high school algebra students relate multiplication of polynomials to multiplication of integers. A representational dilemma emerges when students are taught the unfamiliar concept of multiplying polynomials using the unfamiliar symbolic representation for the distributive property. The goal of this study is to gain an understanding of whether presenting multiplication of polynomials using the same methods in which integers are multiplied may be beneficial to students' ability to make appropriate representational choices when multiplying polynomials. Study participants are students enrolled in high school algebra classes in which multiplication of polynomials is introduced and the teachers have been observed to encourage students to use multiple methods for problem solving. Assessments and interviews will be conducted to determine student justifications for their choices and how students relate multiplication of polynomials to multiplication of integers. (Received September 26, 2017)