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**Elise Lockwood\***, 064 Kidder Hall, Corvallis, OR 97331. *Leveraging Computing to Teach Mathematical Content: The Case of Programming and Productive Combinatorial Thinking*. Preliminary report.

For decades there have been reports that computational activities such as designing algorithms or engaging in programming might help students learn mathematics more effectively (e.g., Fenton & Dubinsky, 1996; Tedre & Denning, 2016). With the increasing ubiquity of computing and the importance of computing in future STEM jobs, though, the need is greater than ever to better understand the relationship between computational activity and students' learning of particular mathematical topics. In this talk, I describe efforts to demonstrate ways in which students might benefit from engaging in particular computational activity (writing and implement simple Python programs) in order to reinforce productive aspects of combinatorial thinking (the relationship between counting process and sets of outcomes (Lockwood, 2013)). I elaborate theoretical reasons for why this case makes sense and provide initial findings from a study with undergraduate students. I conclude with some modest implications and offer suggestions for avenues for future research. (Received January 20, 2018)