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35294-1170. *Learning Through Re-Arrangement of Patterns.*

Our experience is that there is a difference in student performance and understanding when challenged to represent a growing pattern of blocks in multiple ways, including algebraic, provided the students are encouraged to (1) build and manipulate the pattern for themselves, as contrasted with (2) examine and possibly draw representations of the pattern on paper. The variety of solutions found by the students is also richer in case (1). We illustrate this with a couple of examples of growing patterns that have been particularly successful in eliciting these reactions. Our report will include examples of student work, and data from a randomized experiment with an undergraduate geometry class. (Received September 22, 2011)