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**Nemirovsky, Ricardo; Kaput, James J.; Roschelle, Jeremy**

**Enlarging mathematical activity from modeling phenomena to generating phenomena.**

Olivier, Alwyn et al., 22. Conference of the International Group for the Psychology of Mathematics Education (PME 22). Proceedings. Vol. 3. ,. 287-294 (1998).

Traditionally, mathematics has been used as means for modeling aspects of the experienced world, and it is often taken as axiomatic that one can learn mathematics more effectively if one is able to apply what one already knows and can do. We illustrate how we can substantially deepen the connection with everyday experience by using mathematical functions to generate phenomena as well as model them. We first provide a framework for examining relations among simulations, notations and physical phenomena. We then illustrate with a 9th grade classroom episode how students' activity taps into their linguistic, kinesthetic and notational resources to deepen their engagement with important mathematical ideas. (orig.)

*Classification:* U53