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Undergraduate students' conceptions of variability in a dynamic computer-based environment.

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Summary: This chapter reports on portions of a larger study aimed at exploring how undergraduate introductory statistics students make sense of the central concept of statistical variability. We began by exploring their existing ways of understanding variability as expressed through spoken word, gestures, drawings, and inscriptions. We then invited the participants to interact with dynamic models that we designed in order to make more explicit the notion of variability and analysed their emerging understanding. Based on our analysis of the changes in their multimodal communication, we argue that the use of dynamic mathematics environments can help promote a more physical and temporal understanding of statistical variability.

Classification: K45 U75

Keywords: statistical variability; dynamic models; multimodal communication

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