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Invention activities support statistical reasoning.

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Summary: Students' experiences with statistics and data analysis in middle school are often limited to little more than making and interpreting graphs. Although students may develop fluency in statistical procedures and vocabulary, they frequently lack the skills necessary to apply statistical reasoning in situations other than clear-cut textbook examples. This led the authors, a classroom teacher and a university researcher, to redesign a twelve-day statistics unit to give their sixth-grade students opportunities to apply statistical reasoning to meaningful problems, make sense of messy data, deal with uncertainty, and interpret results within context. To guide their redesign, they turned to the GAISE Report, the Guidelines for Assessment and Instruction in Statistics Education, which proposes a framework for learning statistics as an investigative problem-solving process rather than as a set of disconnected formulas and graphs. This active process includes formulating questions, collecting data, choosing and applying appropriate methods of analysis, and interpreting results. In this article, Students investigate how well an online game helps them learn. (ERIC)

Classification: K43 D83

Keywords: statistical analysis; statistics; educational games; use of technology; activities

<http://www.nctm.org/Publications/Mathematics-Teaching-in-Middle-School/2016/Vol21/Issue6/Invention-Activities-Support-Statistical-Reasoning/>