

ZMATH 2015d.00860

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Using Excel to develop random number sense.

Spreadsheets Educ. 6, No. 2, 10 p., electronic only (2013).

Summary: People have difficulty creating and recognizing random sequences, but can become better at these tasks through practice and feedback. This paper describes how simulations produced with Excel can be used to visually display a sequence of random events, allowing users to develop their randomness cognition. Instructions are provided for simulating simple binary events, dice rolls, and events generated by a Poisson process. The results are then visualized using Excel's conditional formatting option or by displaying a bar graph. A survey of students learning the concept of recurrence interval showed that most enjoyed interacting with the Excel simulations and gained insights not apparent from reading about the concept or viewing static diagrams.

Classification: K60 U70

Keywords: stochastics; teaching; random numbers; spreadsheets; probability; random sequences; law of small numbers; hot hand fallacy; gambler's fallacy; stochastics processes; visualisation; variability of sequences; dynamic simulation; conditional formatting; randomness cognition
<http://epublications.bond.edu.au/ejsie/vol6/iss2/4/>