

Strategies for Managing Statistical Complexity with New Software Tools

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Summary

New software tools for data analysis provide rich opportunities for representing and understanding data. However, little research has been done on how learners use these tools to think about data, nor how that affects teaching. This paper describes several ways that learners use new software tools to deal with variability in analyzing data, specifically in the context of comparing groups. The two methods we discuss are 1) reducing the apparent variability in a data set by grouping the values using numerical bins or cut points and 2) using proportions to interpret the relationship between bin size and group size. This work is based on our observations of middle- and high-school teachers in a professional development seminar, as well as of students in these teachers' classrooms, and in a 13-week sixth grade teaching experiment. We conclude with remarks on the implications of these uses of new software tools for research and teaching. (Contains 9 figures.)

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