

ZMATH 2016e.00888

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Building up the box plot as a tool for representing and structuring data distributions: an instructional effort using TinkerPlots and evidence of students' reasoning.

Ben-Zvi, Dani (ed.) et al., The teaching and learning of statistics. International perspectives. Cham: Springer (ISBN 978-3-319-23469-4/hbk; 978-3-319-23470-0/ebook). 235-245 (2016).

Summary: Six 7th-grade students engaged with an instructional sequence involving the use of the TinkerPlots software to organize data sets in ways intended to help them construe two attributes: the location of subsets of data values within a subrange of the entire set and the length of the intervals comprised by those subsets. Findings from a pretest and a culminating task suggest that the students enriched their ability to imagine and create a hypothetical data distribution from a given representative box plot, and that they became oriented to the spread of portions of a data set as indicated by the length of quartiles.

Classification: K43 U73

Keywords: box plots; distributions; variability; density; data

doi:10.1007/978-3-319-23470-0_29