

Presenting Statistical Concepts Through the Use of Memory Challenges

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Abstract:

This article aims to help students understand standard deviation and the central limit theorem through an activity based on memory challenges modeled after the USA Memory Championship. The USA Memory Championship is an annual event that asks competitors to memorize numbers, poems, playing cards, faces, and more. Students will participate in an abridged version of this contest as they will be asked to memorize as many numbers and letters as possible in one minute. The class will then use the data sets to explore the aforementioned concepts. They will use sticky notes to discover the spread of the data and will use a statistical software package to create histograms of sampling distributions that will illuminate the central limit theorem. Additionally, there is a recommendation on how to incorporate writing into the standard deviation portion of the lesson. This activity is designed to be completed at the beginning of the semester, as it creates easily understood data sets that serve as a springboard to understanding more complex data sets and topics. It also allows the instructor to conduct a conversation about memorization in mathematics to show that there is much more to the subject than rote memorization of formulas.



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