ASSESSING HIGH SCHOOL STUDENTS' STATISTICAL LITERACY ABOUT THE MEASURES OF CENTRAL TENDENCY

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Statistics is increasingly considered an important outcome of schooling. To explore Chinese high school students' statistical literacy about the measures of central tendency, this study examined a sample of eighty-three students' responses to a two-tier fifteen-item instrument. Rasch analysis demonstrated adequate reliability and validity of this instrument to measure student performance. Considering Rasch difficulty estimates, classical difficulty estimates, and the most popular distractor, this study identified the students' strength in calculating median and weighted mean. However, they struggled with understanding the mean of a random variable, distinguishing between sample mean and population mean, and applying the measures of central tendency in diverse contexts. Making connections between the statistics concepts appeared a challenge for the students. Implications for statistics education are discussed.