

Title: A refined technology based statistical reasoning assessment tool in descriptive statistics

Author/Authors: Chan Shiau Wei, Zaleha Ismail, Bambang Sumintono

Abstract: Statistical reasoning is an essential field in statistics education, but its assessment has yet to be fully established in Malaysia, especially in terms of alternative assessments. This study has been conducted to refine an initial technology-based statistical reasoning assessment tool from Chan and Ismail's⁴ study in descriptive statistics for upper secondary school students. The assessment tool was constructed upon five levels of statistical reasoning from Garfield's⁷ model and four constructs from the framework of Jones et al.¹³ The content validity and interrater reliability of this assessment tool were measured. 10 upper secondary students participated in a taskbased interview using this assessment tool. Amendment was made after the first task-based interview to refine the assessment tool to become more reliable and realistic in assessing the statistical reasoning ability among secondary students.