

ELEMENTARY SCHOOL TEACHERS' UNDERSTANDING OF ESSENTIAL
TOPICS IN STATISTICS AND THE INFLUENCE OF ASSESSMENT
INSTRUMENTS AND A REFORM CURRICULUM
UPON THEIR UNDERSTANDING

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ABSTRACT

With the increased emphasis on statistics at the elementary school level as recommended by the GAISE document, it is important to consider the current status of teachers' understanding of statistics. This study explored teachers' understanding as they implemented new curricula materials which have ten lessons focused on statistical topics at each grade level. These curricula materials provided a medium for discussion that helped reveal whether or not elementary school teachers possess an adequate understanding of essential topics in statistics to implement the standards they are now called upon to teach.

The results of this study indicate that elementary school teachers may not be prepared to teach statistics at the level of depth described in the GAISE document. There are several implications that are drawn from the results including the importance of a statistics course during teacher preparation programs, sustained professional development, and careful consideration during the creation of curricular materials. Teachers who are unprepared to teach material at the level the GAISE document now prescribes face an unfair situation where they have not mastered the material they are now called upon to teach. The standards should not be increased without addressing teachers' preparation to meet those standards.