Relating STAR Reading™ to the Mississippi K-3 Assessment Support System (MKAS²) 3rd Grade Reading Summative Assessment Performance

Introduction

Educators face many challenges; chief among them is making decisions regarding how to allocate limited resources to best serve diverse student needs. Different educational assessments serve different purposes, but those that can identify students early in the school year as being at-risk to miss academic standards can be especially useful because they can help inform instructional decisions that can improve student performance and reduce gaps in achievement. Assessments that can do that while taking little time away from instruction are particularly valuable.

Three general categories of assessment are:

- Summative – typically annual tests that evaluate the extent to which students have met a set of standards. Most common are end-of-year accountability tests such as the Mississippi K-3 Assessment Support System (MKAS²) 3rd Grade Reading Summative Assessment.

- Formative – short, frequent processes embedded in instruction that provide feedback on student performance and identifying what students know and can do.

- Interim – assessments that fall in between formative and summative in terms of their duration and frequency. Some interim tests can serve one or more purposes, including informing instruction, evaluating curriculum and student responsiveness to intervention, and forecasting likely performance on a high-stakes summative test later in the year.

STAR Reading™

STAR Reading is a computer-adaptive measure of general achievement in reading for students in grades 1 through 12. It can be administered at multiple points throughout the school year for purposes such as screening, placement, progress monitoring, and outcomes assessment. Renaissance Learning recommends that STAR tests be administered two to five times a year for most purposes, and more frequently when used in progress monitoring programs.

STAR Reading places a minimal burden on teacher time, as it can typically be completed in less than 20 minutes. Following the test administration, a variety of reports are instantly available summarizing student performance.
The STAR assessment system includes a longitudinal database of tests administered to a student both within and across school years.

STAR Reading has performed well in independent technical reviews, such as those conducted by the National Center on Response to Intervention, National Center on Intensive Intervention, and National Center on Student Progress Monitoring.

Study Purpose

This project focuses on the application of interim test results to inform educators about which students are on track to succeed on the summative state test and which students might need additional assistance. Specifically, the purpose of this study is to explore statistical linkage between Renaissance Learning interim assessment STAR Reading and the MKAS² 3rd Grade Reading Summative Assessment. The linkage may be useful for:

1. The early identification of students at risk of failing to make yearly progress goals, which could help teachers decide to adjust instruction for selected students.
2. Forecasting percentages of students likely to pass the state assessment sufficiently in advance to permit redirection of resources by administrators.

Analysis & Results

Analysis included scores from over 24,000 students who took both the MKAS² 3rd Grade Reading Summative Assessment and STAR Reading during the 2014/15 school year. Probability estimates indicated that a STAR Reading score of 336 in the spring of the 3rd grade year is associated with a 90% probability of passing the MKAS² 3rd Grade Reading Summative assessment.

Conclusions and Applications

Correlations and classification accuracy metrics indicated a strong relationship between the STAR and MKAS² tests. When projecting STAR Reading scores from earlier in the year to predict MKAS² 3rd Grade Reading Summative Assessment performance, students were correctly classified as either proficient or not 93% of the time.

The statistical linkages between STAR Reading interim assessments and the MKAS² provide a means of forecasting student achievement on the MKAS² 3rd Grade Reading Summative Assessment based on STAR scores obtained earlier in the school year. Mississippi educators can confidently use the interim assessment STAR Reading as a predictor of MKAS² 3rd Grade Reading Summative Assessment performance.