Establishing a Relationship between Diagnostic Assessment and Intervention Tools to Predict Statewide Assessment Scores: Reading

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Abstract

Illinois has adopted a mandate that requires all public schools to use a response to intervention model (RTI). This model has prompted schools to adopt individually tailored intervention programs. One such program is the SuccessMaker Reading computer program. Although many of these programs are being adopted by schools, the relationship between outcomes from these programs and the Illinois Standards Achievement Test (ISAT) reading content area is unknown. Therefore, the purposes of this study were (a) to determine the correlation between SuccessMaker and ISAT, and (b) to develop benchmarks for a local school based on the correlation. Outcome variables from the SuccessMaker Reading computer program were collected from three student cohorts across kindergarten, first grade, and second grade, and correlated with the students’ 3rd grade ISAT scores in the reading content area. Based on the predicted relationship between the SuccessMaker scores and ISAT scores, a cut score was then derived to identify students who are at risk for not meeting ISAT standards in reading.

Methods

- For each academic quarter, students’ Current Course Level (CCL) on the SuccessMaker computer program were correlated with their score on the reading content area of the ISAT taken in 3rd grade.
- A scatter plot was created depicting students’ CCL and corresponding predicted ISAT score.
- A cut score was established for each quarter to identify students who might be at-risk for not meeting or exceeding expectations.

Results

- The correlations between Initial Reading CCLs and ISAT ranged from .233 to .790, with the strongest correlation between the ISAT and CCL from the 4th quarter of 2nd grade.
- The correlations between Reader’s Workshop CCLs and ISAT ranged from -.190 to .543, with the strongest correlation between the ISAT and CCL from the 4th quarter of 2nd grade.
- Figures 1-8 graphically display both percentile-based and correlation derived cut scores.
- The percentile-based cut scores always identified a greater number of students as at-risk for not meeting ISAT expectations.

Discussion

- The purposes of this study were to determine the correlation between SuccessMaker and the ISAT, as well as the extent to which percentile-based and correlation derived cut scores differentially identified students at-risk for not meeting state standards.
- The results showed low to moderate correlations between SuccessMaker and ISAT.
- Results also showed that correlation derived cut scores always identified fewer students as at-risk for not meeting standards.
- Currently, the correlation between reading CBMs and ISAT is approximately .7.
- While the correlations between SuccessMaker and ISAT were generally not as strong as the correlation between CBMs and ISAT, results suggest that by using correlation derived cut scores, outcomes from diagnostic and instructional programs can be used effectively for the purposes of benchmarking and identifying students who are at-risk for not meeting ISAT standards.
- Considering correlation derived cut scores resulted in fewer false positives, or students identified as at-risk but are actually not, this study holds implications for future practice in that schools with limited resources may be able to reduce the number of students receiving intervention services that they do not truly need.
- Future research is needed to create and evaluate decision rules for the placement of correlation derived cut scores.

Purposes

The purposes of this study were to:

- Determine the actual magnitude of the correlation between SuccessMaker and the ISAT
- Determine the extent to which a percentile rank and correlation derived cut score with the ISAT result in differential identification of students at-risk for not meeting state standards.