

# SCIENTIFIC RESEARCH

## RELIABILITY AND VALIDITY

### STAR Reading® Correlates to Stanford 9 Achievement Test and California Standards Test

Source: Louise Bennicoff-Nan, assistant superintendent, Dinuba Unified School District  
Summarized from: Bennicoff-Nan, L. *A Correlation of Computer Adaptive, Norm Referenced, and Criterion Referenced Achievement Tests in Elementary Reading*. Ed.D diss. Santa Ana, CA: The Boyer Graduate School of Education, 2002.

#### Introduction

Results from more than 1,000 students in grades three through six in a central California school district show moderately strong to strong correlations between STAR Reading computer-adaptive reading test, the Stanford 9 Achievement Test, and the California Standards Test.

Correlation between STAR Reading, the SAT 9, and the CST

	STAR v. 1.0 versus		STAR v. 2.0 versus	
	SAT 9	CST	SAT 9	CST
3rd Grade	0.76	0.69	0.82	0.78
4th Grade	0.73	0.72	0.83	0.81
5th Grade	0.87	0.81	0.83	0.79
6th Grade	0.86	0.83	0.81	0.78

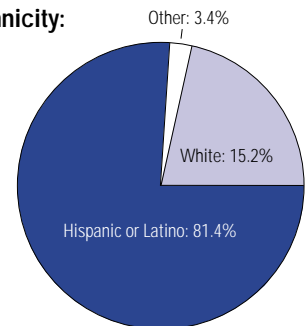
#### Study Profile

Dinuba Unified School District  
5 Schools  
Students: 1,100, Grades: 3-6  
Dinuba, Calif.

#### Demographics:

Rural  
Title I  
Free or reduced lunch: 83.4%  
Limited English proficiency: 29.8%

#### Race/Ethnicity:



#### Educator Background

**Dr. Louise Bennicoff-Nan** is the Assistant Superintendent of Educational Services for the Dinuba Unified School District in Dinuba, Calif. Prior to assuming her present position she was K-12 Director of Curriculum and Instruction for the district.

In her 18-year career, Dr. Bennicoff-Nan taught high school science and was an elementary school principal. She earned a Bachelor of Science degree from the Pennsylvania State University, her California teaching credential from California State University at Los Angeles, a Master of Arts in School Administration from Fresno Pacific College, and her Ed.D. from the Boyer Graduate School of Education.

(more information on back)

## Study Description

This independent validation compared student scores on STAR Reading to scores on the Stanford 9 Achievement Test (SAT 9)<sup>1</sup> and the California Standards Test (CST)<sup>2</sup> for English/Language Arts to determine the predictive ability of STAR Reading for these two high-stakes assessments in California. The SAT 9 is used as the norm-referenced portion of the California Standardized Testing and Reporting program for grades 2–11. The CST contains augmented questions used by the California Department of Education in a criterion-referenced manner to measure and report the progress of students in grades 2–11 toward the California adopted standards.

Eight research questions were posed at the beginning of the study:

- The first two related to correlations between student scores on STAR Reading versions 1.0 and 2.0 and on the SAT 9.
- The third examined whether there was a significant difference between correlations for the two versions of STAR Reading (1.0 and 2.0).
- The next three explored the same relationship between the two versions of STAR Reading and the CST.
- The final two questions attempted to discern differences in STAR Reading's predictive ability for the SAT 9 and CST with high-achieving and low-achieving students.

The data were analyzed using a cross-sectional correlation design with bivariate analysis. Due to the continuous scale of scores for all tests and the large sample size, the Pearson product moment correlation coefficient was used for all research questions.

## Results

Analysis of the data showed moderately strong to very strong correlation between STAR Reading versions 1.0 and 2.0 and both the SAT 9 and the CST for students in all grades studied. Differences in correlations for the two versions of STAR Reading as compared to the two assessments were not statistically significant. While both versions of STAR Reading have similar predictive value, version 2.0 showed greater predictive consistency across grades. Small samples hampered the analysis of high- and low-achieving students. There were not enough high-achieving students to complete a satisfactory analysis of the predictive ability of STAR Reading for this group. Analysis of low-achieving students was similarly based on small samples, however the data yielded inconclusive results.

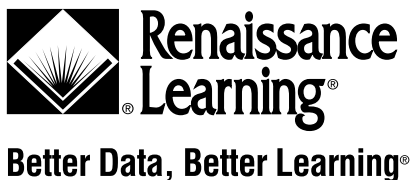
## Conclusion

Given the findings of this study, the author concludes that STAR Reading is “a time and labor effective way for teachers to monitor student progress in reading in the classroom.” Subsequently, she recommends STAR Reading “for California school administrators for program evaluation and measuring the progress of students toward state accountability goals.”

The results of this study can be considered relevant and applicable to all schools and districts in California and other rural regions with high-Hispanic, low socio-economic status populations who use the SAT 9 as their state assessment.

<sup>1</sup>Harcourt Assessment, Inc. *Stanford Achievement Test*, ninth ed. San Antonio, TX: Harcourt Assessment, Inc. n.d.

<sup>2</sup>California Department of Education. *California Standards Test*. Sacramento, CA: California Department of Education, Standards and Assessment Division, n.d.



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