

TEST SCORE GAINS FOR OPEN COURT SCHOOLS IN CALIFORNIA
RESULTS FROM THREE COHORTS OF SCHOOLS

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Executive Summary

In a report dated May, 2000, the author described the results of an analysis of test score gains for roughly 300 schools in California using the SRA/Open Court reading program. The analysis focused on the Total Reading scores on the

Introduction

Learning to read early and well is critical not only for success in school but for success in life in general. Children who are good readers at the end of first grade usually are motivated to read more thereby becoming stronger readers. As these students read more, they increase their background knowledge, expand their vocabulary, and interact with and learn about a wide range of text. In contrast, students who do not learn to read well by the end of first grade are at risk for

(1990) is the most frequently cited research for beginning reading today] as well as the conclusions reported in *The Report of the National Reading Panel: Teaching Children to Read* (2000). While the former reflects a careful review of beginning reading research, the conclusions in the *The Report of the National Reading Panel: Teaching Children to Read* are based upon a comprehensive meta-analysis of experimental and quasi-experimental studies of sufficient size, number, scope, and quality to determine the effectiveness of specific practices related to critical instructional areas for reading. The instructional components identified as critical to beginning reading instruction in both these publications are the development of phonemic awareness, knowledge of the alphabetic principle, explicit phonics instruction, practice in building fluency, the development of vocabulary, and instruction in comprehension strategies and skills.

Developing phonemic awareness is critical to learning to read and spell successfully. Phonemic awareness, the insight that words are made up of sounds, should be introduced early in the school curriculum. Two key areas that seem to be particularly critical for instru

The comprehension instruction in Open Court reflects the fundamental principle that students not only need to learn critical research-based reading strategies but also to apply them to all text intentionally on an as needed basis to monitor understanding, to resolve problems, and to make sense of what they are reading. Strategy instruction in Open Court is derived from the research on reciprocal teaching introduced by Palinscar and Brown (1984), the transactional strategy instruction of Pressley et al (1992), and the need for engagement and reader decision making for using strategies flexibly and in combination of Anderson and Roit (1993). When strategies are initially introduced, they are modeled by the teacher using think-aloud techniques developed by Bereiter and Bird (1986). Models – think alouds - include what the strategy is, why the strategy is being used, and how to use the strategy to

important component of learning to read. Like comprehension, students must be actively engaged in learning about words and their meanings. Simply teaching students definitions of

Summary of Previous Results

The May, 2000, report (covering data from the 1998-1999 school year) described the identification of 293 schools in California that had one or more years of implementation for the Open Court reading program, and the construction of a comparison group of 293 schools

Methodology for the Current Study

The starting point for the current study (covering the 2000-2001 school year) was the cohort of 293 Open Court schools used for the May, 2000, report. As was noted in that report, the demographic information available from the Spring 1999 administration of the STAR program suffered from incomplete data. [STAR is a statewide student assessment program in California conducted by the California Department of Education. The demographic data for this study

significance within the set of Open Court schools between Reading Lions and Non-Reading Lions schools for the number of years schools had been using Open Court materials.

With databases involving roughly 300 schools, differences between gain scores of roughly 1.5 points might be considered to be statistically significant. For analyses involving 700 schools, differences in gain scores of less than one point would be statistically significant. However, as described in the May 2000 report, strictly speaking school data such as achievement test gain scores do not satisfy one of the underlying assumptions for statistical significance procedures, that of random assignment of students to schools. Therefore, based on extensive personal experience with the analysis of school test data, the author will continue to use the conservative guideline that gain score differences should reach 5 points to be called “meaningful” and 10 points to be called “very meaningful.” These guidelines insure that test score differences cited as meaningful or very meaningful did not occur by chance alone.

Current Year Results

The results will be presented in four sections. The first section will involve results from Cohort 1999, including 3-year, 2-year, and 1-year gains based on *Stanford 9* scores for both primary comparisons and disaggregations. The second section will involve results from Cohort 2000, including 2-year and 1-year gains for both primary comparisons and disaggregations. The third section will involve results from Cohort 2001, including 1-year gains. The final section will provide a summary of results for the new *California Standards Tests* scores.

Section 1: Cohort 1999

The results for the 3-year gains [from Spring 98 to Spring 01] for Cohort 1999 are presented in Table 1. For grade 2, the test score gains for the Open Court schools were roughly 7 percentage points larger than the gains for all California schools and for the stratified random comparison group schools. This difference is large enough to be called a meaningful difference. For grade 3, the Open Court schools outgained all California schools by 3 points and the stratified random comparison schools by more than 5 percentage points. The latter result is large enough to be called meaningful. [The numbers in parentheses in the row and column descriptions for all tables reflect the numbers of schools potentially contributing to the gain scores.]

Table 1
Cohort 1999: 3-Year Gain Scores

Table 1.0

	Grade 1	Grade 2	Grade 3
All California Schools (5025)	N/A	12.5	9.3
Open Court Schools (293)	11.3	19.2	12.7
Comparison Schools (274)	N/A	12.3	7.3

Table 1.1

School Category	Grade 2		Grade 3	
	OC	Non-OC	OC	Non-OC
Low LEP/High SES (110)	15.0	14.0	11.6	7.2
Moderate LEP/Low SES (49)	23.3	9.6	13.0	7.4
Moderate LEP/Moderate SES (70)	19.1	12.5	13.6	7.9
High LEP/Low SES (64)	23.8	9.0	13.3	5.6

Table 1.2

Open Court Schools	Grade 2			Grade 3		
	3 years	≥ 4 years	All	3 years	≥ 4 years	All

For the four categories of schools (Table 1.1), for grade 2 the Open Court schools showed the largest 3-year gains for schools serving concentrations of Low SES students. The gain score differences, as contrasted to gain scores for Non-Open Court schools serving Low SES students, were large enough to be very meaningful. For

For the 2-year gain scores in Table 2.1, meaningful differences were found for grade 2 for Open Court schools vs Non-Open Court schools serving concentrations of Low SES students. For the disaggregation of gain scores for Open Court schools by number of years using Open Court materials, for grade 2 the result that Reading Lions schools using Open Court 4 or more years had smaller gains than Non-Reading Lions schools using Open Court 4 or more years (4.5 points vs 10.9 points) is evident. For grade 3 gain scores, all of the differences are not large enough to be meaningful differences.

Finally, Cohort 1999 results for 1-year gain scores are presented in Table 3. The overall gain score differences are again modestly in favor of Open Court school

Section 2: Cohort 2000

The 2-year gain results for the 333 Open Court schools and the 311 stratified random Non-Open Court schools in Cohort 2000 are presented in Table 4. These results are very similar to the results presented in Table 2, which is not surprising in that Cohort 2000 only added about 40 schools to the almost 300 schools in Cohort 1999. The pattern of gain scores for the additional 40 schools was not sufficiently different from the pattern of gain scores in Cohort 1999 to generate meaningful deviations from the Cohort 1999 results. [The reader is reminded that the results for Cohort 1999 showed modest test score differences in favor of Open Court schools.]

Table 4
Cohort 2000: 2-Year Gain Scores

Table 4.0

	Grade 1	Grade 2	Grade 3
All California Schools (5025)	N/A	7.4	5.4
Open Court Schools (333)	5.5	9.5	7.2
Comparison Schools (311)	N/A	5.8	4.5

Table 4.1

School Category	Grade 2		Grade 3	
	OC	Non-OC	OC	Non-OC
Low LEP/High SES (115)	7.2	7.7	8.1	4.5
Moderate LEP/Low SES (63)	10.6	3.8	6.4	-0.5
Moderate LEP/Moderate SES (84)	9.3	5.2	5.5	6.8
High LEP/Low SES (71)	12.4	3.9	8.4	4.5

Table 4.2

Open Court Schools	Grade 2				Grade 3			
	2 years (39)	3 years (107)	≥ 4 years (187)	All (333)	2 years	3 years	≥ 4 years	All
Reading Lions (180)	N/A	12.2	4.5	8.4	N/A	8.9	5.8	7.2
Non-Reading Lions (153)	12.2	6.7	10.9	10.8	1.8	8.1	8.8	7.2
All (333)	12.2	11.5	7.8	9.5	1.8	8.8	7.1	7.2

The 1-year gain score results for Cohort 2000 are presented in Table 5. Again, since Cohort 2000 is in large part made up of schools in Cohort 1999, the results parallel the results from Cohort 1999 in large degree, showing modest test score differences in favor of Open Court schools.

Table 5

Cohort 2000: 1-Year Gain Scores

Table 5.0			
	Grade 1	Grade 2	Grade 3
All California Schools (5025)	N/A	1.9	1.8
Open Court Schools (333)	2.3	3.3	3.1
Comparison Schools (311)	N/A	1.4	0.0

Table 5.1

	Grade 2	Grade 3
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Table 6

Cohort 2000: 1-Year Gain Scores

Table 6.0

	Grade 1	Grade 2	Grade 3
All California Schools (5025)	N/A	1.9	1.8
Open Court Schools (714)	2.3	5.2	3.1
Comparison Schools (714)	N/A	1.2	1.0

Table 6.1

School Category	Grade 2		Grade 3	
	OC	Non-OC	OC	Non-OC
Low LEP/High SES (133)	1.4	2.9	3.5	0.4
Moderate LEP/Low SES (190)	5.5	1.4	3.0	1.1
Moderate LEP/Moderate SES (150)	3.9	-1.0	2.4	0.6
High LEP/Low SES (241)	7.8	1.5	3.2	1.5

Table 6.2

	Grade 2					Grade 3				
	1 yr (387)	2 yrs (39)	3 yrs (105)	4 yrs (183)	All (714)	1 yr	2 yrs	3 yrs	4 yrs	All
Reading Lions (182)	N/A	N/A	1.5	2.7	2.2	N/A	N/A	4.7	1.5	3.0

concentrations of Low-SES students. For grade 2, the differences are roughly 3 points; for grade 3, the difference approaches a meaningful 5 points. These results suggest that the Open Court

Conclusion

Overall, the results of the Open Court gain score study this year confirm and solidify the results found in previous years. The 3-year gain scores for Cohort 1999 schools show that Open Court schools outgain Non-Open Court comparison schools by a factor of 50 to 75 %, a very impressive result. These results are depicted in Figure 1.

Figure 1

The results for schools serving Low SES schools are even more impressive, with Open Court schools increasing more than 23 points over the three year period, contrasted to gains of 9 points for Non-Open Court comparison schools. These results are highlighted in Figure 2.

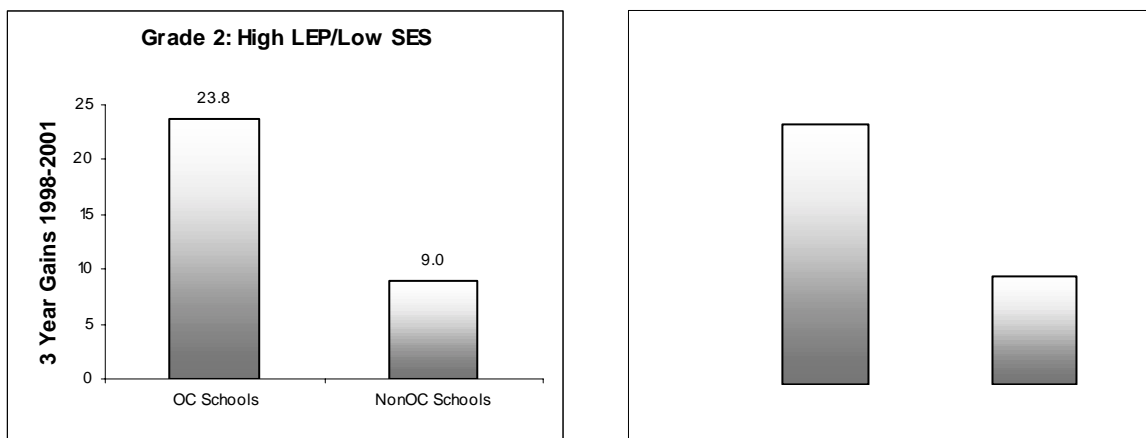


Figure 2

The results of this study provide clear and convincing evidence that students attending schools using Open Court materials acquire basic reading skills at a faster rate than students attending demographically similar schools not using Open Court materials.

Looking forward to next year, a number of enhancements will be available for this report series. The major enhancements will be

- A fourth year of *Stanford 9* gain score data will be available from the STAR program.
- The LAUSD use of Open Court reading materials will extend to grade 3, which will provide

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Appendix A

Variable Definitions and Data Sources		
Variable Label	Definition	Data Source
CO	County Code	STAR 2001 database – downloaded from web
DIST	District Code	STAR 2001 database – downloaded from web
DISTRICT NAME	District Name	CDE 2001 California Public School Directory
SCH	School Code	STAR 2001 database – downloaded from web
SCHOOL NAME	School Name	CDE 2001 California Public School Directory
SENR	School Enrollment	STAR 2001 database – downloaded from web
PTEST	Percent of Total School Enrollment Tested	STAR 2001 database – downloaded from web
PLEP	Percent LEP Students	STAR 2001 database – downloaded from web
PSES	Percent Low SES Students	STAR 2001 database – downloaded from web
PMOB	Percent Mobile Students	STAR Research Data from CDE
P	Packard Reading Lions Schools	Information supplied by SRA/Open Court

Appendix B

Cluster Analysis Methodology to Construct Comparison Groups of Schools

There is interest not only in overall results for various educational programs, but also in how programs perform for diverse types of schools. Schools are frequently described in terms of the type of community they serve (urban, rural, suburban), and in terms of socioeconomic status or language proficiency of the students they serve. California schools serve a particularly diverse population of students, and individual schools may serve a broad mix from that population or may serve concentrated subgroups.

To conduct this series of studies for SRA/McGraw-Hill, the demographic characteristics of schools using Open Court reading materials each year have been analyzed to develop a natural categorization of schools. Initially, the analysis included variables such as school size, mobility, district size, and percent of students tested as well as percent Low Socio-Economic Status and percent Limited English Proficient. However, the percent Low SES and percent LEP variables captured most of the meaningful variation, and analysis the past two years has focused on these two demographic variables.

To develop a natural categorization for Open Court schools, the K-means Cluster Analysis procedure found in *Statistical Programs for the Social Sciences* (SPSS) was utilized. A four cluster solution was found to be best based on Spring 2000 demographic data from the STAR program. When the demographic data from the Spring 2001 STAR program were analyzed for the expanded set of 714 Open Court schools, an identical cluster structure was found. This cluster structure is best described via a plot that identifies the four types of schools.

