

ALCP Year 2 Evaluation Report Addendum: CATS Comparisons
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This report is one component of an evaluation of the Adolescent Literacy Coaching Project (ALCP), a project of the Collaborative Center for Literacy Development (CCLD) and the Kentucky Department of Education (KDE). The project trains literacy coaches who work in Kentucky schools to assist other teachers to refine instructional practices relevant to literacy. The project completed its second year of operation in the 2007-2008 school year. A larger report sharing Year 2 evaluation results was completed in September 2008, but state test scores were not yet available. This addendum shares those results, and is confined exclusively to the question of whether there are detectable changes in school performance on school-level variables that can be attributed to ALCP participation.

As was true in the first year of the project, the only data about such matters available to us are the CATS indexes published at the end of each school year by the Office of Assessment and Accountability in KDE. These complex indices comprise a weighted summary of the performance of individual students on the state's accountability measure, the KCCT tests, which are given in April each year. We want to determine whether when all other factors are accounted-for ALCP schools on average have higher academic indices, particularly in reading, than non-ALCP schools.

Method

For each participating school, ALCP evaluation staff identified a matching school, based on school level, previous CATS scores, free and reduced-price lunch participation, and other factors. We thus have a list of the participating schools and a list of nonparticipating schools that should be similar to ALCP schools except for ALCP program participation. If these schools are sufficiently similar to ALCP schools, then any differences in academic performance between the two groups of schools can be attributed to ALCP participation.

Because the 2007-2008 school year was the second year of ALCP operation, we actually have four groups of schools as follows:

- Year 1 project schools
- Year 1 comparison schools
- Year 2 project schools
- Year 2 comparison schools

In addition some schools in the year 2 cohort shared literacy coaches ("part time coach" schools). The inclusion of year 1 and year 2 schools, and schools with part-time coaches added additional complexity to the study this year. We were interested in answering 3 questions:

1. Are there differences on any of the CATS indexes between ALCP program schools and non-ALCP schools?
2. Are there differences on any of the CATS indexes between ALCP program schools in the two cohorts?
3. Are there differences on any of the CATS indexes between ALCP program schools with full-time and part-time coaches?

We are not limited in our consideration of these questions to comparison of ALCP schools with the selected comparison schools. Because the comparison schools were matched on particular attributes, we can use the CATS performance of all the schools in the Commonwealth, using those attributes as predictor variables. We thus were able to conduct two analyses, comparison of the project/comparison schools and comparison of the performance of ALCP project schools with all regular public schools in the commonwealth.

One additional consideration was in force this year. In the 2006-2007 school year, KDE made substantial changes in the CATS methodology. For this reason the 2006-2007 CATS index scores were not directly comparable to the 2005-2006 scores. We could not therefore use a simple change score (the 2005-2006 score subtracted from the 2006-2007 score) as a measure. To solve this problem we used an analysis of covariance strategy in the study of first-year effects. The indexes for the 2007-2008 school year were however based on the same methodology as those of the 2006-2007 school year, so we could use a change score this year.

We are however left with one difficulty in light of the fact that we have two cohorts of ALCP project schools, one that has been enrolled for two years and another for one. It could be that ALCP effects take more than a year to reach detectable levels, and a one-year change score might not be sensitive enough to measure changes that accrue over multiple years of operation. Our solution to this difficulty was to run multiple analyses, using both a change score comparing performance between 2006-2007 and 2007-2008, and a covariance analysis comparing performance on the 2007-2008 indexes with performance on the 2005-2006 indexes.

Results

Table 1 shows the comparisons of change scores for the 2006-2007 and 2007-2008 school years for various groups of schools for the reading index. Comparisons for other indexes produced similar results which are not shown here. Note that none of the tests reached any traditional level of significance.

Table 1
Pairwise (change score) comparisons
(2007-2008 score – 2006-2007 score)
CATS Reading Index

	t	p
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Project/comparison schools	-0.384	0.7016
Cohort 1/cohort 2	-1.298	0.2007
Part time/full time coach	0.519	0.6060

Table 2 shows the mean index scores for the 2007-2008 school year for the various groups of schools in the analysis. Note that the scores are quite similar regardless of school status. t-tests comparing these means found no significant difference for any comparison.

Table 2
Means and Standard Deviations for 2007-2008 CATS Indexes
By School Type

		Reading		Mathematics		Science		Social Studies		Academic Index	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Elementary											
	Comparison Schools	96.6	8.8	99.1	10.6	99.4	10.5	89.1	15.2	94.6	8.8
	ALCP Project Schools	97.0	10.1	101.1	14.0	103.6	19.2	86.3	16.7	95.4	11.8
Middle											
	Comparison Schools	92.3	8.3	84.1	12.0	88.7	11.3	88.2	14.5	87.4	10.3
	ALCP Project Schools	90.6	10.7	84.7	14.6	87.7	14.7	86.6	12.4	87.5	11.3
High School											
	Comparison Schools	88.8	7.5	64.8	10.0	71.1	4.6	70.3	7.6	75.6	4.4
	ALCP Project Schools	88.0	6.4	67.1	10.0	71.8	8.0	75.7	12.3	77.0	7.3
All Schools											
	Comparison Schools	93.2	8.7	85.9	16.6	89.2	14.2	85.0	15.4	87.7	11.1
	ALCP Project Schools	92.4	10.2	86.8	18.6	90.0	19.5	83.9	14.6	88.1	12.7
Cohorts											
	Cohort 1 Schools	91.1	8.7	85.8	15.6	91.6	21.7	84.2	8.9	88.5	9.4
	Cohort 2 Schools	93.0	10.9	87.3	20.1	89.3	18.7	83.8	16.8	87.9	14.1

A multiple regression of all Kentucky school data using the reading index for 2007-2008 as the dependent variable produced a model with an R^2 of .76, with significant effects for the 2006-2007 reading index and the proportion of white students in the school. No ALCP-relevant variable (project participation or cohort) had a significant effect. Similar effects were obtained for all of the 2007-2008 indexes, and for all indexes including

reading when only the ALCP participating schools and comparison schools were included in the analysis.

Analysis of covariance using the 2005-2006 indices as covariates failed to show a significant relationship between any of the 2007-2008 index scores and any ALCP-relevant variable.

Discussion

The above results are remarkable in their lack of significant findings for any academic variable that might be affected by a program such as ALCP. These results occur regardless of the statistical model used and regardless of whether we make comparisons among all Kentucky schools or just between the project and comparison schools identified by the ALCP project. These results do not demonstrate any detectable improvement in academic performance at the school level due to ALCP project participation over the two year horizon represented by the available data.

This does not necessarily imply that there were no beneficial effects of the ALCP program. The data used in this analysis are available only at the school level, and allow us to evaluate only effects on the literacy environment of the entire school. Yet ALCP coaching services were administered at the classroom level as ALCP coaches worked individually with particular teachers. Particularly in large elementary schools, middle schools, and high schools, ALCP coaches may work intensively with only a few teachers the first year, slowly expanding their reach in subsequent years. Thus any detectable effect may occur only at the classroom level, with school-level effects accumulating over a period of years as coaches work with more teachers. At present, we have no available dataset for evaluating effects at the individual classroom level, which is where we would most expect to see change in the second year of literacy coaching.

Of course the intent of ALCP is to raise the overall performance of the Kentucky education system by improving literacy at the school level. But such results take time, and result from the accumulation of effects at the classroom and individual student levels. We would thus expect to see results when they occur at these less aggregated levels before we would see effects at the school level. Because of the aggregated nature of the available data, real effects produced by the ALCP program might take three or more years to reach detectable levels.

It would be in our interests to determine whether it were possible to identify a source of data that would permit us to detect ALCP effects at more granular levels. Some work along these lines has been done in Kentucky recently by other projects. We might develop a protocol similar to that used in those other projects, and then re-evaluate the effect of ALCP on individual students and the performance of particular teachers.