



## CTL Adolescent Literacy Model Results: An Analysis of Three Studies

### Conducted for CTL by the Pacific Institute for Research and Evaluation May 2010

CTL's extensive work in the area of adolescent literacy has produced promising research findings. Current studies provide strong support for the internal validity of CTL's Adolescent Literacy Model (ALM) for teacher efficacy, an important intervening variable in improving instructional practice and increasing student achievement. (Ross, 1992)

Results from two studies provide evidence of ALM improving student achievement. Both were quasi-experimental with well-matched, equivalent comparison schools. Adding the third study provides even stronger evidence of influencing intermediate variables of teacher efficacy and instructional practice, both of which have been linked to increased student achievement by other research. (Ashton & Webb, 1986; Gibson & Dembo, 1985; Guske, 1988; Smylie, 1990) Ashton (1984) stated, "No other teacher characteristic has demonstrated such a consistent relationship to student achievement." Stein and Wang (1988) suggested that "perceived self-efficacy is the one teacher characteristic that consistently has been found to be related to successful implementation of innovative programs and student learning."

#### Study 1 – Kentucky Council on Postsecondary Education U.S. Department of Education Teacher Quality Grant

Study 1 was an 18-month examination of the impact of ALM in nine Kentucky schools, working with 65 teachers, which explored the impact of professional development on general teaching efficacy, personal efficacy, and collective efficacy (belief in ability to improve student learning). Table 1 illustrates the statistically significant findings between the pre-test administered at the beginning of the school year and posttest at the end of the school year. (Cantrell, et al., 2005)

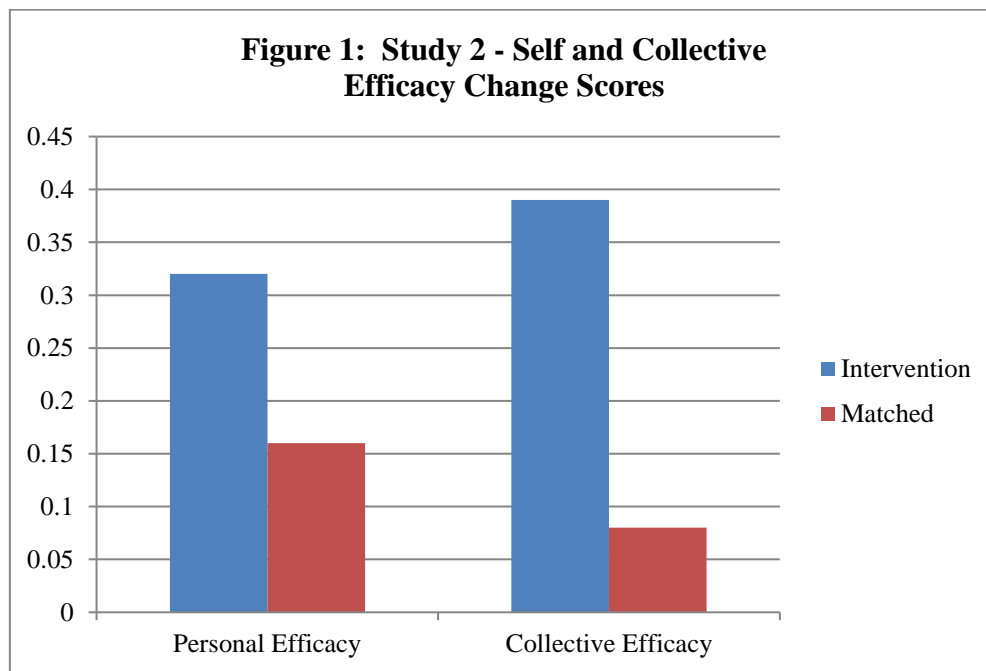
**Table 1: Study 1: Impact on Teachers' Efficacy**

Construct	Degrees of Freedom	t-statistic	p-value
General Teaching Efficacy	38	-6.48	p<.000
Personal Efficacy	38	-2.34	p<.05
Collective Efficacy	38	-2.17	p<.05

## Study 2 – U.S. Department of Education Striving Readers Grant

Study 2 was an evaluation of three years of implementation of ALM that compared teacher and student outcomes in Striving Readers schools with matched comparison schools. Twenty-one matched schools in Kentucky participated in the study with approximately 1,000 classroom teachers receiving professional development. A 65-item teacher efficacy survey was administered to teachers that included items drawn from instruments developed by Woolfolk and Hoy (1990, 1993) and Gibson and Dembo (1984). A 21-item Collective Teacher Efficacy instrument (Goddard, et al., 2000) was also incorporated into the teacher survey. The final survey used high and consistently reliable Cronbach alpha statistics.

These data show an increasing trend of self- and collective-efficacy for both Striving Readers participants and matched teachers; however, Striving Readers' teachers had larger change scores compared to their matched group, as seen in Figure 1 below. (Cantrell, et al., in preparation 2010)



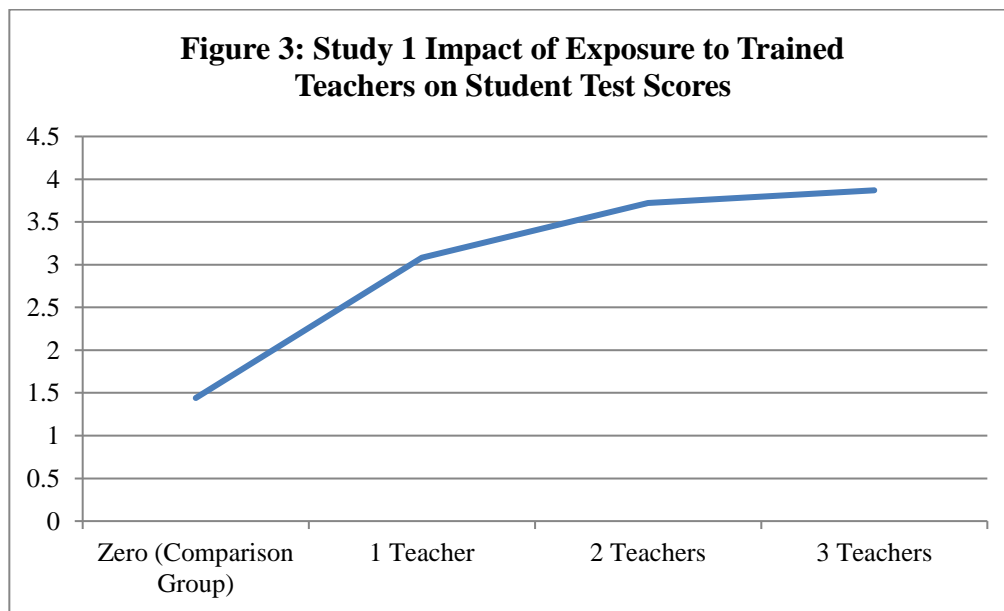
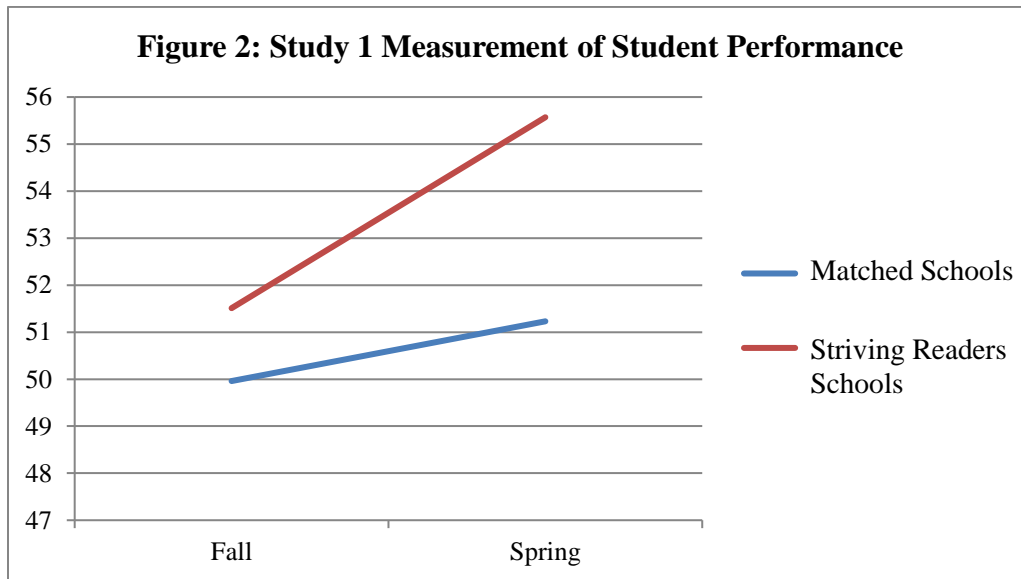
## Study 3 – Kentucky Department of Education Grant

Study 3 was an 18-month study of ALM with professional development provided to approximately 90 middle and high school teachers in a diverse district in western Kentucky. An 18-item teacher efficacy survey (with a range of 18-90) was used to assess growth in middle and high school teachers' efficacy over an 18 month period. Only the first two waves of data are currently available, but they demonstrate a statistically significant ( $p=.003$ ) growth from fall 2008 to spring 2009 for all teachers. The most significant growth was found in mathematics (+6.43,  $p=.033$ ) and science (+5.50,  $p=.037$ ) teachers. (Garrett, in preparation 2010)

## Evidence of Effect: Student Achievement

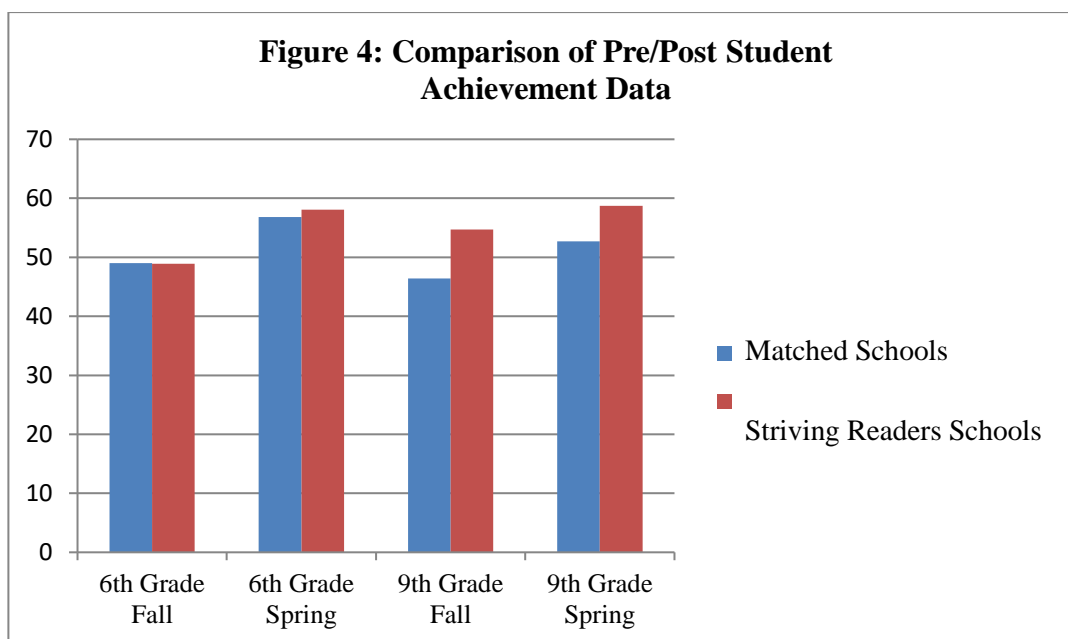
### Study 1

Student achievement data were collected from a sample of participating and comparison high schools. Figure 2 (below) illustrates the impact professional development had on high school student GRADE (a broad literacy measure of understanding of literary text, used as a pre- and posttest) scores. The study found student achievement increased dependent on the number of their teachers who had been trained to use ALM (also see Figure 3 following).



## Study 2

An exploratory study with two sets of matched schools with similar student demographics was conducted in the third year to analyze the effect of ALM on student achievement. Figure 4 following shows pre- and posttest results for treatment and control students in 6<sup>th</sup> and 9<sup>th</sup> grades. The GRADE assessment was given to students in the fall of 2008 and the spring of 2009. Results from this study show higher pre- and posttest scores for both 6<sup>th</sup> and 9<sup>th</sup> grade students from treatment schools than in matched comparison schools. A greater impact is expected when a more targeted assessment is used to measure content literacy.



## Study 3

A very small evaluation budget precluded the use of an experimental design to assess the impact on student performance.

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## References

Cantrell, S. C., et al. (2005). *Content literacy professional development: An intensive program for middle and high school teachers*. Lexington, KY: Collaborative Center for Literacy Development, University of Kentucky.

Cantrell, S.C., et al. *Evaluation of the impacts of the whole-school intervention: Years 1, 2, and 3*. (In preparation 2010). Lexington, KY: Collaborative Center for Literacy Development, University of Kentucky.

Garrett, Brent. 2011. *Evaluation of adolescent literacy model implementation*. Louisville KY: Pacific Institute for Research and Evaluation.