



Kids helping kids: The impact of PALS on the reading levels of at-risk Grade 1 students

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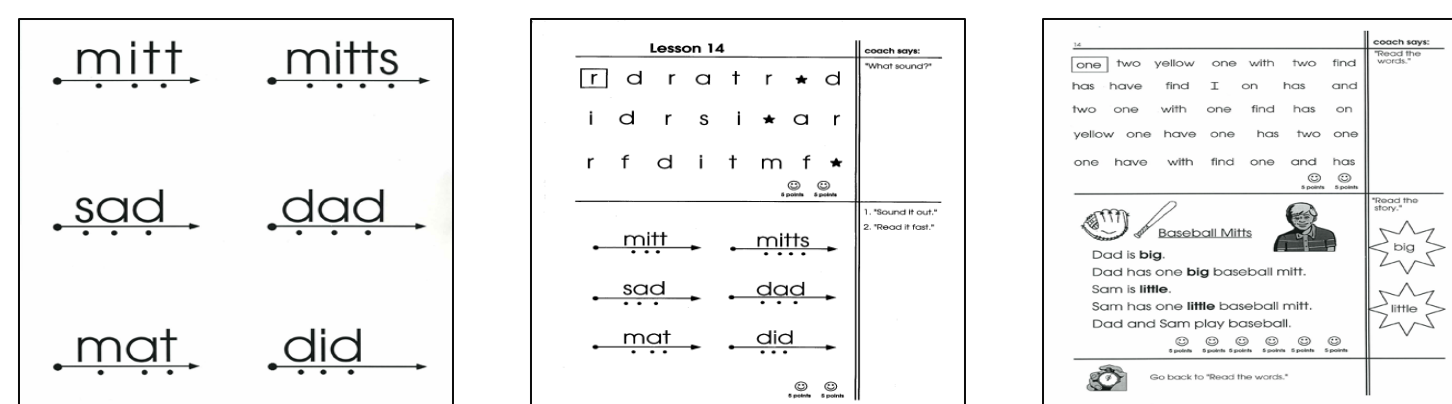
Introduction

Peer-Assisted Learning Strategies (PALS) is a classroom-based program where higher-achieving students are paired with lower-achieving students in order to conduct peer coaching (Fuchs et al., 1997). All students are trained to follow an explicitly scripted interaction, including both praise for success and a series of steps to follow when difficulties are encountered. The PALS program is designed to improve the reading achievement of children with the full range of academic needs, and research has demonstrated that students in PALS classrooms significantly outperform their control counterparts on several reading measures (Fuchs et al., 2001; McMaster et al., 2006; Morgan et al., 2006).

A school board in Ontario recently implemented the PALS program in all its elementary schools (K-6), the first such Board-wide implementation of PALS in Canada. Unique to this case is that PALS was delivered as a separate intervention program by special education teachers rather than classroom teachers. This Board provides the context for our current research. We compared one-year longitudinal PM Benchmark (PMB) data from two cohorts of children (one cohort pre-PALS and one cohort participating in board-wide PALS) to ascertain the effects of PALS.

As a means for gauging student growth in this research, we used PMB scores which assesses the fluency and comprehension of text through the completion of running records. These running records subsequently help teachers to determine students' levels of reading, strengths and needs (Hughes, 2007). Two reasons support our choice to use these scores as a dependent variable in the present study. First, the use of PMBs is prevalent in Ontario school districts and is a mandated reading assessment tool in this school board. This allowed us to draw on the most recent pre-PALS PMB scores for the students in this study, allowing a comparison from which to measure improvement following a single school-year implementation of PALS. Second, due to the frequent use of this tool, both the assessment process and the resulting data were familiar and understandable for the teachers. This familiarity provides coherence between the PALS project and existing practices. Research has shown that this coherence between established practice and new initiatives may have a positive impact on teacher buy-in to a newly implemented program, as it allows for the translation of the resulting information into classroom-based instruction (Pyle, 2009).

PALS Grade 1 – Lesson 14



Method

Participants

PALS data were gathered from 1376 Grade 1 students who participated in the board-wide implementation of PALS. Historical PMB data (No PALS) were obtained from 1347 Grade 1 students from the same school board for the year prior. The analysis includes only students for whom all variables were available.

Risk Assignment

- Typically Achieving (TA) – receiving regular classroom instruction
- Monitored (MON) – receiving regular classroom instruction while being monitored by classroom teachers. There was no change to their program at the time of this study.
- Accommodated (ACC) – deemed by the school board to be in need of accommodations to perform grade level tasks. These students had no official identification at the time of this study.

*Data from students with formal Individualized Educational Plans were not included in our analysis. According to the school board data, in Grade 1, these students were primarily those with autism, physical challenges, etc., and not learning disabilities or dyslexia.

Data Collection

The PMB assessment is similar to the DRA. They both consist of running records of leveled texts which begin with simple patterns and progress to more complex grammatical structures. The studied school board mandates the collection of PMB data in January and May of each school year. Students at this school board are expected to be reading at a level 16 by the end of Grade 1. Curriculum Based Measurements (CBM) were used to gather WIF data (Fuchs et al., 2007).

Data Analysis

- Descriptive statistics were calculated for all tests administered. These statistics allowed for comparisons across cohorts and risk categories of the means and standard deviations of students' scores on PMB assessments and for comparisons across risk categories in the PALS cohort for WIF.
- A bivariate correlation analysis was conducted to explore the relationship between PMB and WIF. For this analysis, data were only available for students in the PALS cohort. Their PMB scores in January and May were correlated with their WIF and LSF scores at lessons 52 and 68 of the PALS program.
- In order to explore the gains of the risk groups over time, a 2 (cohort) x 3 (risk group) x 2 (PMB) with repeated measures on the last factor ANOVA was conducted.

Research Questions

- Does PALS delivered by special education teachers improve the overall reading achievement of Grade 1 students?
- Does PALS differentially impact children's reading performance depending on their risk level?

Results

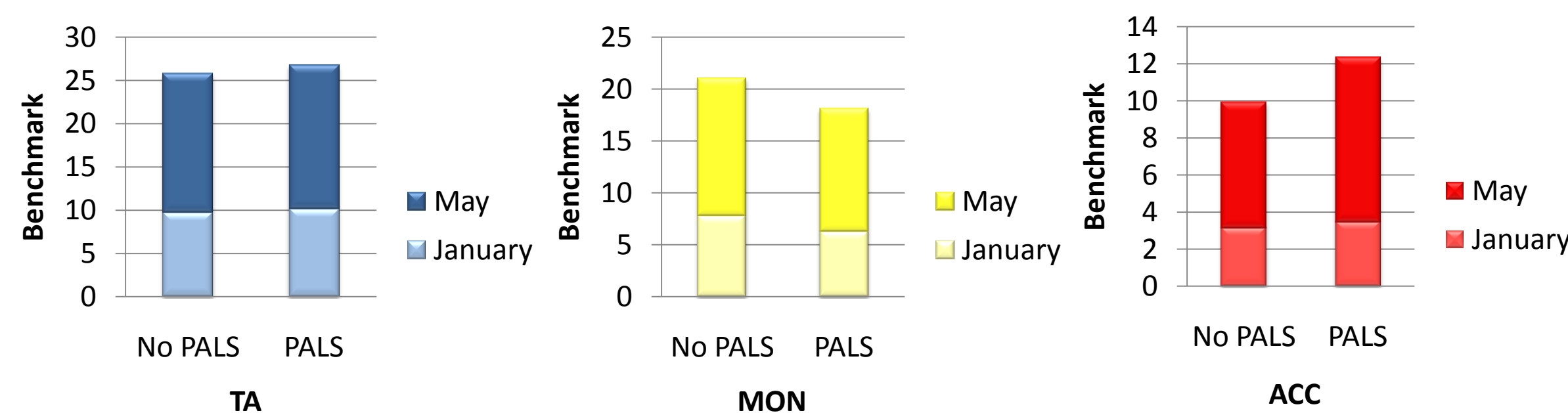
Table 1: Descriptive Statistics for PM Benchmark Levels

	N	January		May	
		Mean	SD	Mean	SD
No PALS					
TA	1030	9.73	6.56	16.04	6.63
MON	188	7.79	6.16	13.23	7.35
ACC	129	3.16	3.07	6.78	4.46
Overall	1347	8.83	6.63	14.76	7.12
PALS					
TA	1059	10.15	6.37	16.61	6.38
MON	222	6.28	5.41	11.84	6.39
ACC	95	3.47	4.73	8.88	6.24
Overall	1376	9.07	6.46	15.31	6.83

Table 2: Repeated Measures ANOVA Results

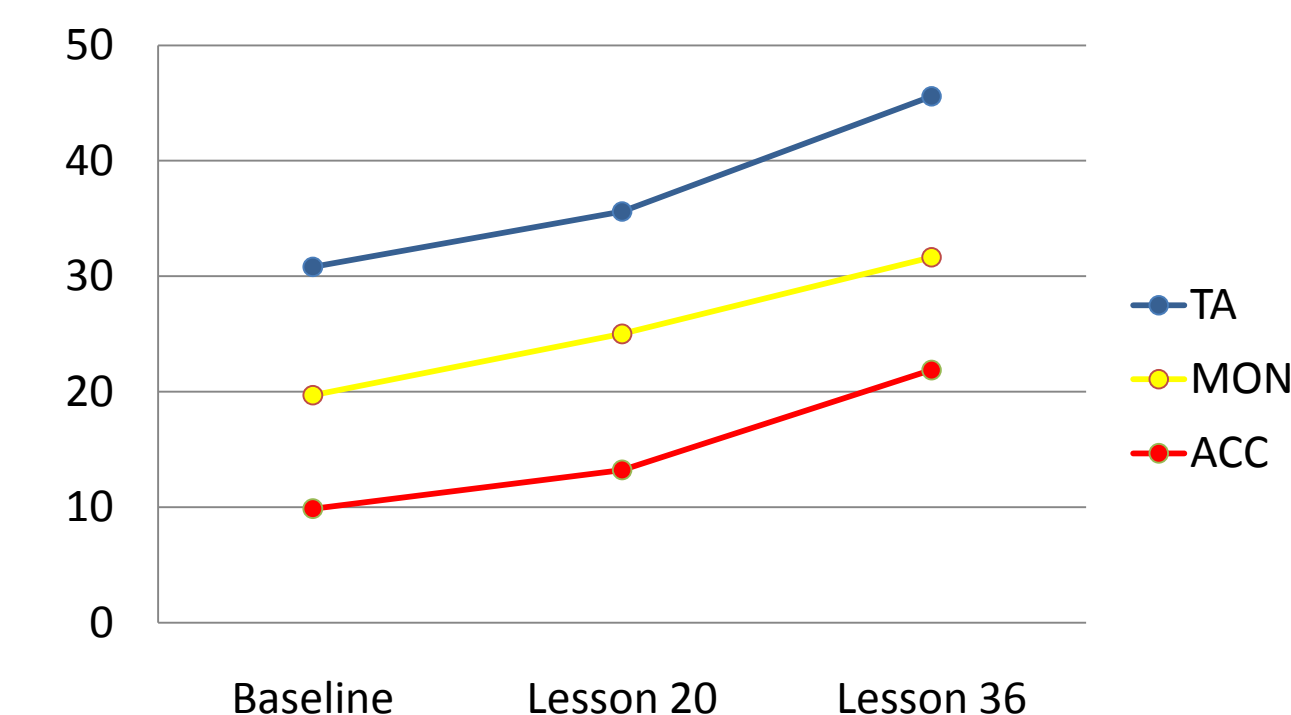
Source	SS	df	MS	F	p-value
Benchmark * Risk	27450.25	(2,2717)	216.09	36.62	< .001
Benchmark * Cohort	4.39	(1,2717)	70.66	11.97	< .001
Benchmark * Risk * Cohort	751.79	(2,2717)	34.01	5.76	.003

Figure 1: Mean PMB Scores



Descriptive statistics are provided in Table 1. A repeated measures ANOVA allowed the researchers to examine the interactions between benchmark scores, cohort, and risk group. Significant main effects were observed for risk group, cohort, and PMB test time. In addition, there were three significant interactions: a two-way interaction between PMB and risk group, a two-way interaction between PMB and cohort, and a three-way interaction between PMB, risk group, and cohort (see Table 2). The analysis shows that, while all students gained over time in both cohorts, the ACC group showed the greatest growth after the implementation of the PALS program (see Figure 1).

Figure 2: Mean Word Identification Fluency – PALS



A correlation of .82 was found between the PMB scores and the WID and Letter Sound Fluency tasks. Figure 2 illustrates the growth of WID scores for the three risk groups. All students showed growth in WID scores between January and May. Students in the TA group had the highest mean score in both January and May. Students in the ACC group had the lowest mean score in both January and May. A 3 (Risk Group) x 3 (WIF test time) repeated measures ANOVA demonstrated a significant interaction of Risk and WIF test time ($F(4,1132) = 3.60, p < .01$). Follow-up Tukey analyses showed that the TA students maintained a significant advantage over ACC and MON students, whose performance was only marginally different ($p = .07$).

Discussion

One aim of this study was to explore the effectiveness of the PALS program when administered by special education teachers. The results indicate that, overall, students who participated in the PALS program showed more growth in PMB scores than their counterparts in the historical control group. The results of this study support the findings of past studies that purport the effectiveness of the PALS program as an early intervention and prevention program (eg. Fuchs et al., 2001; Mathes et al., 1998). One limitation of this study is that the results do not indicate whether these gains are due to the systematic and explicit teaching components of PALS, or simply reflect the additional 150 minutes of weekly supplemental literacy instruction. It is likely, however, that if the gains were merely a reflection of additional instructional time, there would be no interaction for risk group. Instead, it would be expected that there would only be an interaction for cohort and all risk groups would improve in a similar manner.

Another goal of this study was to explore the effect of PALS on students in risk groups that were predetermined by the school board. The findings indicate that the impact of PALS did, in fact, differ according to risk group. While students who were identified as TA showed moderate gains in PMB scores after the implementation of the PALS program, students who were already receiving in-class accommodations for literacy showed much greater gains in PMB scores with the use of PALS. A similar pattern of growth was not found for children in the MON group. This discrepancy between the ACC and MON groups is likely due to the fact that there were no standard criteria for inclusion in the MON group. Students' scores on the WIF measure show that all of the groups demonstrated growth with the implementation of PALS.

These results support the use of PALS in mainstream classrooms. The results also suggest that PALS is especially effective as a preventative program as it seems to be particularly effective for children in need of literacy support. Furthermore, because the PMB reading measure was used for this study, these results may be especially useful for classroom teachers in the participating school board. According to Denton et al. (2003), teacher buy-in is reliant on teachers' beliefs that there is an actual improvement in student learning. As PMB is a commonly used assessment tool in Ontario, demonstrating gains using this tool may increase the likelihood of teacher buy-in as a result of teachers' familiarity with the testing procedures.

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