Turning Existing Data into Research: Building Capacity for District Decision Makers

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Overview.

With limited budgets for new programs, it is important for decision-makers to be able to use district data systems to help identify programs that are working for teachers and students. We need to answer questions like "Did the new computerized reading program make a difference in middle school student achievement?"

While most districts have systems in place to track and collect student- and teacher-level data, very few have the resources to retain personnel with the statistical skills to conduct evaluations to obtain actionable evidence about the effectiveness of such programs.

This poster illustrates a solution that was implemented at Poway Unified School District (PUSD). Through the use of an online tool, PUSD designed and conducted a study to test the effectiveness of a commercial reading product. The results of the study were then used to inform decisions about instruction, program assessment, and continued investment in the reading program.

Preparing for Research: What Districts Need

Questions. There are two things districts must have in order to conduct research. This may seem obvious, but districts first need questions; more importantly, they need to make sure their questions can be answered with data that can be readily obtained. Questions often involve the effectiveness of new tools or methodologies. Examples include:

- Is the new reading intervention program making a difference for my district's English language learners?

- Has the current teacher professional development system translated into student achievement gains?

Data. A good "data warehouse" is important–one that has data sets stored in ways that make them readily accessible. Typical data include student rosters, demographics, and test scores. In addition, information about teachers, such as years of experience and professional development, can be very helpful for analysis. Ideally, data for several years prior to the intervention exist for the same or similar subject-matter tests.

Case Study: Poway Unified School District.

Questions: Committed to making evidence-informed decisions using "rigorous analysis" rather than relying on "opinion," PUSD sought to evaluate the impact of Compass Learning's Odyssey (CLO) program on middle school reading. Specifically, PUSD wanted to know: *How does the implementation of CLO impact middle school student achievement in literacy?*

Data: PUSD's use of CLO provided an ideal research situation. First, PUSD maintains an extensive longitudinal database that includes comprehensive demographic details on every student enrolled since 2000. Included are NWEA MAP growth data, which are collected from students three times annually, and growth norms the district has developed.

Second, CLO has a robust log component to their interactive teaching tool that collects data on student usage and activities completed. Unique student identifiers allow for CLO data to be linked to student demographic and NWEA test data. With PUSD's longitudinal database and CLO's log data, Empirical Education was able to acquire the necessary data to conduct the appropriate analyses.

An Online Evaluation Tool: MeasureResults.

Seeking to evaluate the impact of CLO in their district, and facing resource and staff limitations, PUSD partnered with Empirical Education to pilot a new, online research tool called MeasureResults. This tool provides an online interface where users can design their study, provide data safely and securely, and view results and reports.

MeasureResults contains three major steps:

| Design Study	Provide Data	View Reports
1	**2**	**3**
Design the Study	**Provide Data**	**View Reports**
We provide general information about our district and kind of study we want to do.	Based on the information we provided, a selected data request document is sent to us for our completion.	After we upload our data, Empirical conducts the statistical analysis and provides a report on the findings.

Results.

Design: An interrupted time series with comparison group design allows us to compare student scores from the years after the introduction of CLO to student scores prior to the use of CLO. We also compared achievement for students who used CLO to achievement of students who did not use CLO.

Results: On average, 7th and 8th graders who used CLO in 2008-2009 achieved 1.17 and 2.38 points higher, respectively, on MAP Literacy than was expected. This translates into a one year gain of roughly 27% for 7th graders, 60% for 8th graders. No significant results were found for 6th graders.
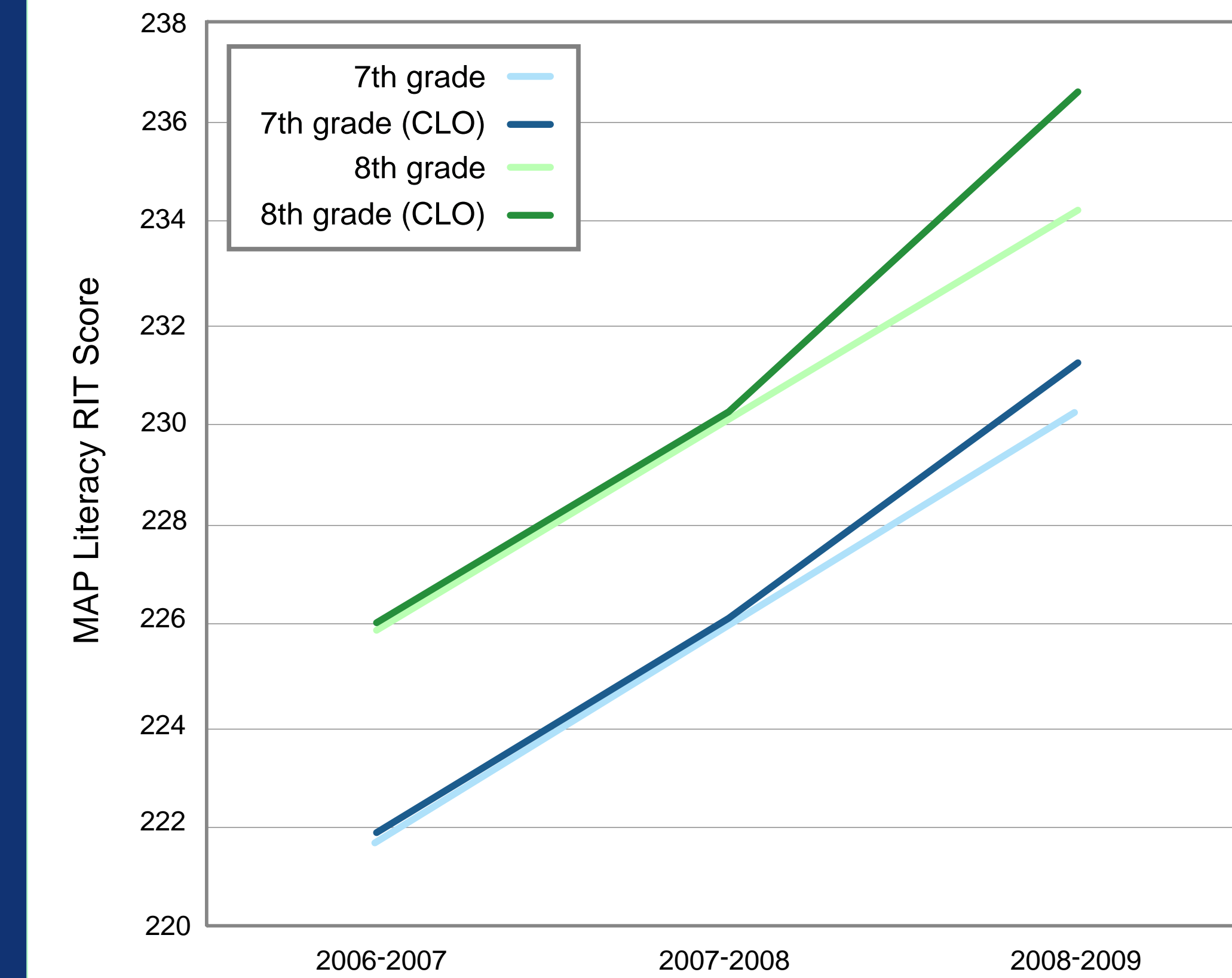
Implications and Next Steps.

These findings will add to PUSD's portfolio of evidence about the impact of CLO and assist staff and school board in determining whether to continue and/or expand the investment of funds, effort, and time in the program. In addition, the findings prompted new questions:

- What possible implementation factors contributed to the growth in the 6th grade?
- What impact does CLO Mathematics have on middle school achievement?
- How does CLO impact elementary student achievement?
- How does time spent on CLO correlate with student achievement?

Overall, we found the research process to be quite simple from the administrative end. We did have to make adjustments and shifts in staff resources, and the data compilation proved to be more challenging and time-consuming than we had originally expected. However, the staff involved in the research process appreciated the opportunities to participate in a project that they believed added value to their work and contributed to the considerations about student learning.

We are encouraged by the results of our investment in this process and we definitely plan to continue building our local research capacity among our staff. We expect that the next studies we conduct will take much less time now that we are familiar with the methods and tools involved.