Progress on a Tool to Support Educators in Creating Their Own Research Evidence
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Introduction.

MeasureResults is a web-based tool that allows administrators to design and conduct their own efficacy studies.

- Subscription customers are provided with account logins and a customized setup on our web site. They use the study designer to answer questions about the program that leads to a concrete study plan, including specifications for data to be retrieved from the district’s data warehouse.
- Our automated backend processing then cleans and warehouses the data and performs an analysis by selecting the appropriate analytical model for the study.
- The final step is to generate and upload a short report. Our staff monitors the process and reviews reports before delivery to the customer, generally within a few days of receiving the data.

Study Examples.

Richardson Independent School District
Research Question*: Did 9th grade students of teachers who had more years experience with TI-MathForward outperform other students?
Study Design: Interrupted time series
Outcome Measures: Texas Assessment of Knowledge and Skills (TAKS) Mathematics
Data sources: District supplied

Poway Unified School District
Research Question: Has CompassLearning Odyssey Reading (CLO) had a positive impact on overall middle school student literacy scores throughout the district?
Study Design: Interrupted time series with comparison group
Outcome Measures: NWEA MAP
Data sources: District supplied

Statewide K-12 School-level Behavioral Intervention
Research Questions: How does this K-12 behavioral intervention impact school-wide performance in Math and English, as well as school-wide discipline issues?
Study Design: Comparison group
Outcome Measures: State department of education website and NCES website

Conclusion/Discussion.

1. Educational authorities (school districts and states) appear to have substantial amounts of data and sufficient IT expertise to prepare datasets necessary for program evaluations.
2. Interventions tend to roll out gradually (within district or state) which implies that ITS with a nonequivalent comparison group is a dominant design.
3. Using MeasureResults, routine program evaluations can be designed by educational administrators who have limited background in statistics and do not specialize in educational research. Evaluations can be executed automatically with minimal intervention by an analyst, allowing for low cost and short turnaround times.
4. MeasureResults is the “statistician on call.”

Issues and Solutions.

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<tr>
<th>Issues</th>
<th>Solutions</th>
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<td>1. Identification of treatment and control groups: level and incidence of treatment, multiple/continuous treatments, contaminated control groups.</td>
<td>Integrate teacher surveys into the process</td>
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<td>2. Transparency/silence of study planner dialog</td>
<td>Professional development, human language summaries</td>
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<td>3. Issues with data request compliance</td>
<td>A) Programmatic interfaces to data management systems most widely used by districts</td>
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<td>B) Personnel designing the study may not be familiar with the databases</td>
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<td>4. Missing and/or “noisy” data</td>
<td>Develop a sensitivity analysis module that would use imputation and simulation techniques to produce a range of estimates</td>
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*Excerpted from full report