Paper #3: Middle School Mathematics PD Study: Study Results

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*Presenter

Background/context: (See paper 1 in this symposium)

Purpose / objective / research question / focus of study: (See paper 1 in this symposium)

Setting / Population / Participants / Subjects: (See paper 1 in this symposium)

Intervention / Program / Practice: (See paper 2 in this symposium)

Research Design: (See paper 1 in this symposium)

Data Collection and Analysis: (See paper 1 in this symposium)

Findings / Results / Conclusions:

This paper will describe results concerning the impact of the PD on the three primary study outcomes: teacher knowledge of rational number topics, teacher instructional practices, and student achievement in rational number topics.

The basic analytic strategy for assessing the impact of the PD program was to compare outcomes for schools that were randomly assigned within each district to each of the two study conditions. Because we used data on students nested within teachers' classrooms nested within study schools, three-level models were used to estimate the impact of professional development on student achievement and two-level models were used to estimate impact on the teacher measures. The impact model used the sample of teachers and students present in the study schools as of the spring 2008 data collection period. The estimates provide an intent-to-treat analysis of the impact of the PD program because they reflect impact on the targeted (or "intended") sample, whether or not all eligible teachers in the treatment schools participated fully in the PD provided.

The impact of the PD was examined for the full sample (12 districts) and for key subgroups of districts. The subgroups were formed by design during the recruitment phase of the study. First, we recruited districts that were using different mathematics curricula. We recruited six districts that used either Glencoe McGraw-Hill Mathematics: Applications and Concepts or Prentice Hall Mathematics (referred to jointly as Glencoe/PH Mathematics); we also recruited 6 districts that used Connected Mathematics (CMP). These two categories of curricula differ in the organization of instructional materials, in the instructional approaches supported, and in the content emphasized, so the impact of the PD may differ by curriculum type.

In addition to examining the impact of the PD separately for each curriculum subgroup, we also examined the impact separately for each of the two organizations that provided the PD. Each of the two PD providers—America's Choice and Pearson Achievement Solutions—was assigned to work with 6 of the 12 districts participating in the study. Providers were assigned to

districts to balance the allocation of districts using Glencoe/PH Mathematics and CMP across providers. Thus, the 6 districts using Glencoe/PH Mathematics were split between the two providers (three for America's Choice and three for Pearson Achievement Solutions), and the six districts using CMP were similarly split, so that the effect of the PD in either curricular context would be derived from the services of both organizations.

All analyses are completed. However, the results cannot be shared at this time because the report is currently under peer review in the Institute of Education Sciences. The complete first year report is scheduled to be released fall of 2009, well before the SREE conference.

Appendix A. References

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