Milwaukee Mathematics Partnership

Comparison of Math Teacher Leader Models: Value-added Analysis of Student Achievement in Schools with Released and Non-released Math Teacher Leaders

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Agenda

- MMP Background
- Key Questions for Discussion
- Conceptual Framework
- Explanatory Framework
- Discussion
MMP Goals

- Comprehensive mathematics framework
- Distributed leadership
- Teacher learning continuum
- Student learning continuum
MMP Background

- **Funding**
  - October 2003 MSP Phase I Award (Year 8)
  - January 2009 MSP Phase II Award (Year 3)
  - September 2008 funding from the State of Wisconsin for released MTL positions (Year 3)

- Important strategic shift—implementation of released-time MTL Model beginning in the second half of 2007-2008 school year.
Key Questions

- What types of math teacher leader models have been implemented in school districts across the country?
- To what extent have various models proved efficacious for improving student results?
Conceptual Framework

- Released MTL Strategy
  - 114 schools
  - 80% of time MTL works with adults
  - 20% of time MTL works with students
  - Lesson planning, model lessons, examine student work, review data

- This strategy was critical for sustaining the MTL role in schools
Explanatory Framework—Methods

- Examine WKCE ‘value added’ data and WKCE attainment data
- Look at the distribution of low and high performing schools in Grades 3-5 and Grades 6-8
- Compare distributions of schools with released and non-released MTLS
Analytical Framework

- Determine if having a released MTL predicts placement in a given quadrant
- Use the *Phi* statistic as a measure of correlation between nominal data
  - Significant results indicate that having a released MTL predicts quadrant placement
  - Non-significant results indicate no differences
Elementary Results—Year 1

Figure 1. Elementary Value Added from Fall 2006 to Fall 2007 versus Fall 2007 Attainment

\[ \Phi = .26 \\ p = .07 \]
Figure 2. Elementary Value Added from Fall 2007 to Fall 2008 versus Fall 2008 Attainment

\[ \Phi = 0.26 \]
\[ p = 0.05 \]
Elementary Results—Year 3

Figure 3. Elementary Value Added from Fall 2008 to Fall 2009 versus Fall 2009 Attainment

\[ \Phi = .24 \]

\[ p = .11 \]
Middle School Results—Year 1

Figure 4. Middle School Value Added from Fall 2006 to Fall 2007 versus Fall 2007 Attainment

\[ \Phi = 0.31 \]
\[ p = 0.09 \]
Middle School Results—Year 2

Figure 5. Middle School Value Added from Fall 2007 to Fall 2008 versus Fall 2008 Attainment

\[ \Phi = .29 \]
\[ p = .11 \]
Middle School Results—Year 3

Figure 6. Middle School Value Added from Fall 2008 to Fall 2009 versus Fall 2007 Attainment

\[ \Phi = .28 \]
\[ p = .13 \]
Conclusions

- The MTL release model has led to improvements in underperforming schools.
- The initial disparities in achievement between underperforming schools with a released MTL and higher performing schools without a released MTL are disappearing.
- This suggests that the released MTL model may be a better solution for underperforming schools than the non-release model and that MTLs are having a positive impact in many schools.
Discussion

○ What types of math teacher leader models have been implemented in districts where you are working?

○ What evidence have you developed to demonstrate that various models have potential for improving student results?