Using Education Research and Data to Inform Induction and Mentoring

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We will discuss research about three major topics:

1) What is teacher quality and how do we measure it?
   • The “Leveling Up” report – our study of the distribution and impact of teachers’ academic characteristics in Illinois

2) How do you keep good teachers in the classroom?
   • “Leaving Schools or Leaving the Profession?” – our study of new teacher attrition in Illinois

3) What are the effects of induction programs on teacher quality and teacher retention?
   • “Impacts of Comprehensive Teacher Induction” – results from the first year of Mathematica’s randomized, controlled study
What is teacher quality and how do we measure it?
What teacher characteristics seem to matter?

- The first three to five years of experience
- Teacher “academic capital”
  - Average teacher ACT composite scores
  - Average teacher ACT verbal scores
  - % of teachers failing Basic Skills Test
  - % of emergency certified teachers
  - Teachers’ average college selectivity

School Index of Teacher Academic Capital ("ITAC")

- What doesn’t seem to matter?
  - Experience beyond the first three to five years
  - Advanced degrees (except in subject matter for HS math & science teachers)
ITAC is strongly related to school poverty (and minority) levels...

- **Green** = highest ITAC
- **Red** = lowest ITAC
- **Striped** = Lowest 10%
... but ITAC gaps are closing over time.
Why?

The academic capital of new teachers is improving.
Key Findings: New Teachers and Teacher Quality

• Teacher academic capital is not a silver bullet and it is just one of many aspects of teacher quality – but it does mean something.

• The academic capital of new teachers has improved greatly in recent years, especially in our neediest schools
  – But the “ITAC gap” still exists; and
  – Experience matters, too – how do we ensure that these new teachers stay?
How do you keep high quality teachers in the classroom?
Two Types of Attrition

1. From the profession: departure of new teachers from teaching in Illinois public schools (IPS)

2. From the school: departure of new teachers from teaching in their initial school
Attrition from the profession is down since 1970s (now about 40%/27%)
We see very little difference in initial school stay rates of new teachers by school characteristics.
In fact, there is more difference in school turnover of new teachers within school types.

<table>
<thead>
<tr>
<th>School Type</th>
<th>Percent of New Teacher Stayers By School Type After Two Years</th>
<th>Percent of New Teacher Stayers By School Type After Five Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10th Percentile Schools</td>
<td>50th Percentile Schools</td>
</tr>
<tr>
<td>Overall</td>
<td>33.3</td>
<td>56.7</td>
</tr>
<tr>
<td>CPS</td>
<td>40.0</td>
<td>61.1</td>
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<tr>
<td>Non-CPS Urban</td>
<td>30.0</td>
<td>53.8</td>
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<tr>
<td>Suburban</td>
<td>33.3</td>
<td>58.3</td>
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<tr>
<td>Town</td>
<td>33.3</td>
<td>57.1</td>
</tr>
<tr>
<td>Rural</td>
<td>27.8</td>
<td>52.4</td>
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<tr>
<td>CPS</td>
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<tr>
<td>Northeast (less CPS)</td>
<td>33.3</td>
<td>57.1</td>
</tr>
<tr>
<td>Northwest</td>
<td>25.0</td>
<td>53.3</td>
</tr>
<tr>
<td>East Central</td>
<td>27.6</td>
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<tr>
<td>West Central</td>
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<td>Southeast</td>
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<tr>
<td>Southwest</td>
<td>33.3</td>
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<tr>
<td>&lt; 10% Low-Income</td>
<td>36.4</td>
<td>60.0</td>
</tr>
<tr>
<td>10 – 49% Low-Income</td>
<td>30.8</td>
<td>55.6</td>
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<td>50 – 89% Low-Income</td>
<td>26.3</td>
<td>57.1</td>
</tr>
<tr>
<td>≥ 90% Low-Income</td>
<td>36.4</td>
<td>60.0</td>
</tr>
<tr>
<td>&lt; 50% Minority</td>
<td>33.3</td>
<td>57.1</td>
</tr>
<tr>
<td>50 – 89% Minority</td>
<td>30.8</td>
<td>57.3</td>
</tr>
<tr>
<td>90 – 98% Minority</td>
<td>29.4</td>
<td>57.1</td>
</tr>
<tr>
<td>≥ 99% Minority</td>
<td>33.3</td>
<td>56.6</td>
</tr>
<tr>
<td>Low Minority/Low Low-Income</td>
<td>36.4</td>
<td>60.0</td>
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<td>High Minority/High Low-Income</td>
<td>35.7</td>
<td>58.8</td>
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<td>&lt; 25% Meets/Exceeds ISAT</td>
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<td>25 – 45% Meets/Exceeds ISAT</td>
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<td>46 – 64% Meets/Exceeds ISAT</td>
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<td>65 – 76% Meets/Exceeds ISAT</td>
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<tr>
<td>≥ 77% Meets/Exceeds ISAT</td>
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<td>60.0</td>
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</tbody>
</table>

Note: All categories, except for ISAT categories, are based on data from the 1987 through 2001 new teacher cohorts. The ISAT results are based on data from the 1998 through 2001 cohorts.
We found very little difference in initial school stay rates of new teachers by teacher characteristics.
But when we combine school and teacher characteristics…

- We find that high academic capital teachers from disadvantaged schools were the most likely to leave.
- And remember from the previous section:
  - The proportion of high academic capital teachers in disadvantaged schools is increasing
  - So retention of these teachers is likely to become more of a problem!
Key Findings: New Teacher Attrition

• New teachers’ commitment to the profession has improved and is stronger than conventional wisdom would suggest.

• There are some differences in initial school attrition rates by school type
  – But they are modest given the categorical labeling of disadvantaged schools as “hard to staff”

• There is tremendous variation in retention rates within each school type
  – Including those that are commonly viewed as attractive places for teachers to work

• School conditions other than those considered in this study strongly influence new teachers’ decisions to stay in a school.
  – School leadership? School culture? What else? Maybe induction programs…
What are the effects of induction programs on teacher quality and teacher retention?
The Study

- “Gold standard” – randomized controlled study involving:
  - 1,009 teachers, 418 schools, 17 districts, and 13 states
- What is “comprehensive teacher induction”?
  1. Carefully selected and trained full-time mentors
  2. Curriculum of intensive and structured support
  3. Focus on instruction, w/ opportunities for new teachers to observe experts
  4. Formative assessment with observations, evaluation, and ongoing feedback
  5. Outreach to administrators for systemic support of program goals
Findings: Positive impacts on teacher induction support

Control group received support…
- 75% had an assigned mentor (13% full time)
- 74 minutes/week with mentor (38% during school hours)
- 81% say mentor meeting time is adequate
- 28% kept log, 42% observed others teaching

…but treatment group received more
- 93% had an assigned mentor (74% full time)
- 95 minutes/week with mentor (77% during school hours)
- Positive impacts on types and intensity of assistance received, all 22 areas of guidance, many areas of PD
Findings: No positive impacts on outcomes after one year

• No impact on classroom practices
• No positive impacts on student achievement
  – Some evidence of negative impacts at selected grades
• No impact on teacher retention
• No positive impacts on composition of teaching workforce
Some possible explanations...

- First year only – how long would we expect it to take before we see an impact?
  - On instruction? On achievement? On retention?
  - Mentors trained during first year when evaluation was occurring.

- A majority of *both* groups received some induction support
  - e.g. 93% of treatment vs. 75% of control had mentor
Summary

• Recent cohorts of new teachers are bringing with them much higher academic capital characteristics

• New teacher attrition has declined since the 70’s, and return-adjusted rates are closer to one quarter than the urban legend of one half

• There are large differences in new teacher attrition even among very similar types of schools
  – So it is difficult to predict what types of schools – and what teacher characteristics – are likely to lead to higher attrition rates

• Mathematica’s study of comprehensive induction found no positive impacts on outcomes after one year of study implementation
What are the implications of this research for you and your program?

• For New Teachers
  – What do I need to make me a more effective teacher?
  – What would make me stay at a school? What would make me leave?
  – How does the induction program effect me?

• For Mentors
  – How can I help new teachers become more effective more quickly?
  – What can I do to help new teachers stay at our school?
  – How can I influence the effectiveness of our induction program?

• For Program Coordinators
  – What are the important things to look for in determining the effectiveness of our induction program?
  – What effects are reasonable to expect from our program?
  – How can induction help to improve teacher quality and retention?