Differentiated Compensation Plans: Context, Status, and Direction

Matthew G. Springer
National Center on Performance Incentives
Peabody College of Vanderbilt University

Presentation prepared for the Albert Shanker Institute and the American Federation of Teachers conversation on The Next Generation of Differentiated Compensation: What Next?
Washington, DC
November 12, 2014

Bio

- Assistant Professor of Public Policy and Education; Director, National Center on Performance Incentives.

- Led major evaluations of educator pay programs in United States, including Austin (TX), Nashville (TN), New York City, Round Rock (TX) at district-level and Tennessee and Texas at state-level.

- Testified on differentiated compensation plans in Florida, New York, Oklahoma, Tennessee, and Texas.

- Served on numerous advisory boards charged with designing and evaluating educator performance pay plans.

Overview

1. Differentiated Compensation and Performance Pay Debate

2. Review of Research

3. What Next?

1. Differentiated Compensation and the Performance Pay Debate
Most rigorous evidence comes from abroad.

Studies have focused primarily on short-run motivational effects, with very little attention on compositional effect.

- Mix of individual and group incentives, etc.
- Systems should be designed to: optimize size of bonuses, literature is not sufficiently robust to prescribe how
- Literature reports generally null effects.
- Direct evaluation literature is slender.

Summary of Research

- Performance Pay:
  - Performance Pay is inconclusive
  - Lack appropriate measures and technical capacity
  - Ongoing debate on whether or not performance pay
  - Higher interest and goals
  - Selection of compositional effect
  - Motivation
  - To single salary schedule

Many contend pay for performance is an ideal alternative

Educator Performance Pay Debate

- Recruit and retention awards
- Hard-to-staff schools
- Hard-to-staff subjects
- Career ladders
- Knowledge- and skill-based pay
- Pay for performance / merit pay

Types of Retention can be classified into a handful of categories.

-ベースの効果
-長期的な利益と目的
-選択的な構成要素
-動機
-単一給与表

多くの人々のためのパスを提供する性能基準
**Grades of Social Science Research**

**Experimental**
- Provide the best method possible to examine a cause and effect situation.
- Random sampling, random assignment, controlled implementation.

**Quasi-Experimental**
- Comparative studies that carefully attempt to isolate the effect of an intervention through means other than randomization.
- No "true" control group, lacks randomization, may not control intervention.

**Correlational**
- Describes relationship among variables in a particular sample.
- Time series design or cohort or case control analysis.

**Descriptive**
- Describes characteristics of a single sample or exploratory study.

---

**Prior Research (United States)**

<table>
<thead>
<tr>
<th>Program</th>
<th>Design</th>
<th>Sample</th>
<th>Treatment</th>
<th>Focus</th>
<th>Evaluator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project on Team Incentives (Reno, NV, 2008 - 2011)</td>
<td>RCT</td>
<td>82 teams</td>
<td>Team</td>
<td>Org. dynamics / behavior</td>
<td>Developmental Research</td>
</tr>
<tr>
<td>Project REAL (Chicago, IL 2008 - 2011)</td>
<td>RCT</td>
<td>32 schools</td>
<td>Hybrid (grade-level)</td>
<td>Teacher behavior</td>
<td>Mathematica Policy Research</td>
</tr>
<tr>
<td>School-Wide Perf. Bonus Program (New York City 2008 - 2010)</td>
<td>RCT</td>
<td>&gt; 200 schools</td>
<td>School</td>
<td>Student outcomes</td>
<td>RAND / Nat. Ctr. on Performance Incentives (NCPI); Fryer</td>
</tr>
<tr>
<td>FRYER STUDY (Chicago 2012)</td>
<td>RCT</td>
<td>9 schools</td>
<td>Teacher / School</td>
<td>Student outcomes</td>
<td>Fryer, Levitt, List, and Sadoff (2012)</td>
</tr>
</tbody>
</table>

*Note: RCT = randomized, controlled trial; RD = regression discontinuity.*

---

**Types of performance measures**

<table>
<thead>
<tr>
<th>Input</th>
<th>Processes</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional development</td>
<td>Student achievement levels</td>
<td>Students receiving matriculation certification</td>
</tr>
<tr>
<td>Knowledge- and/or skill acquisition</td>
<td>Student test score gains</td>
<td>Student dropout rate</td>
</tr>
<tr>
<td>Student and/or teacher attendance</td>
<td>Number of credit units earned per student</td>
<td>Student pass rates</td>
</tr>
<tr>
<td>Student, parent, and/or supervisor evaluation of teacher</td>
<td>Students receiving matriculation certification</td>
<td>Students receiving matriculation certification</td>
</tr>
<tr>
<td>Student, parent, and/or supervisor evaluation of school learning environment</td>
<td>Students receiving matriculation certification</td>
<td>Students receiving matriculation certification</td>
</tr>
</tbody>
</table>
3. What Next

Compensation Reform is not cut all
- Performance
- Continue to identify and advance different measures of teacher
  performance.
  • V.S. multiple performance metrics.
  • e.g., individual teacher attributes; small vs. large bonuses; single
  institution/organization’s performance, cost-effectiveness, etc.
- Need to begin comparing different performance pay models.
- Studies evaluate the impact of programs on student
  achievement, teacher attitudes, teacher behavior,
  and compensation.
- A handful of rigorous evaluations have been launched in U.S.

Summary of Current Research

Prior Research (International)

<table>
<thead>
<tr>
<th>Program</th>
<th>Design</th>
<th>Sample</th>
<th>Treatment</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program 1</td>
<td>Randomized Controlled Trial</td>
<td>Teacher/Student</td>
<td>Classroom interventions (e.g., professional development)</td>
<td>ECT = 90% (increase)</td>
</tr>
<tr>
<td>Program 2</td>
<td>Quasi-experimental</td>
<td>School</td>
<td>School-based interventions (e.g., after-school programs)</td>
<td>ECT = 60% (increase)</td>
</tr>
<tr>
<td>Program 3</td>
<td>Experimental</td>
<td>Teacher</td>
<td>Individualized instruction (e.g., technology-based)</td>
<td>ECT = 75% (increase)</td>
</tr>
</tbody>
</table>

Prior Research (United States)

<table>
<thead>
<tr>
<th>Program</th>
<th>Design</th>
<th>Sample</th>
<th>Treatment</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program A</td>
<td>Randomized Controlled Trial</td>
<td>Teacher/Classroom</td>
<td>Classroom interventions (e.g., professional development)</td>
<td>ECT = 80% (increase)</td>
</tr>
<tr>
<td>Program B</td>
<td>Quasi-experimental</td>
<td>School</td>
<td>School-based interventions (e.g., after-school programs)</td>
<td>ECT = 50% (increase)</td>
</tr>
<tr>
<td>Program C</td>
<td>Experimental</td>
<td>Teacher</td>
<td>Individualized instruction (e.g., technology-based)</td>
<td>ECT = 65% (increase)</td>
</tr>
</tbody>
</table>
**What Next?**

- More thoughtful, complete investment in human capital systems (still run risk of layering on top of existing policies and compensation practices)
- Shift to market oriented compensation systems
  - Salary differentials by field
  - Effective teacher retention bonuses in high need schools (Springer, Swain, Rodriguez, 2014)
- Still need to link educational research, practice, and policy communities

**Differentiated Compensation Plans**

- Efforts to reform single salary schedule have emerged in virtually every decade since the 1950s.
- Types of reforms can be classified into a handful of categories.
  - Pay for performance / merit pay
  - Knowledge- and skill-based pay
  - Career ladders
  - Hard-to-staff subjects
  - Hard-to-staff schools
  - Recruitment and retention awards


---

**Investment in Human Capital Systems**

- Recruitment
- Career Progression
- Selection/Placement
- Evaluation
- Induction
- Compensation
- Performance Management and Evaluation
- Professional Development

**Salary Schedule Suppresses Pay Differentials by Field**

- **Elementary Education**
  - 1999-2000: 4.4%
  - 2003-2004: 7.8%
- **Mathematics**
  - 1999-2000: 20.8%
  - 2003-2004: 33.3%

This is huge considering a highly effective teacher is 1.7 times more effective than the average teacher. We've learned that a highly effective teacher can increase student learning by 21 percent, compared to just 9 percent for an average teacher. This equates to a $5,000 retention bonus for highly effective teachers in priority schools. Average teachers in priority schools earn $6,000 less than teachers in other schools.

Highly effective teachers in priority schools are 3 times more likely to stay at their school than highly effective teachers in other schools. High retention bonuses for highly effective teachers in priority schools is a win for students and schools.