Big-Picture Question: If you have a middle school with 1,200 students in a building with 300 computers, how could you put excellent teachers in charge of each student’s learning, at least in the four core subjects?

School’s student population has the following characteristics:
✱ The student population is 70% African-American, 25% Latino, and 5% Caucasian.
✱ 80% of students qualify for free/reduced-price lunch. Few parents have college degrees.
✱ 30% of students score “proficient” on state tests overall. Students enter 1.5 years behind, on average.
✱ The district is high-poverty, not just this school. Economic integration is not possible at this time.

School’s teacher and classroom characteristics:
✱ Class sizes average 25 students each, in line with national averages. Some are larger, others smaller.
✱ One-fourth of the teachers have consistently produced 1.5 years of student learning growth annually for at least two years out of the last three. Their students who start a little behind (half a year or less) catch up in one year, making their course pass rates somewhat higher than other teachers’. But students who are further behind still do not achieve proficient scores on state tests, even with the school’s best teachers. In other words, in any given year, 25% of students have access to “excellent teachers” with whom students begin to close achievement gaps substantially. On average, students have at most one excellent teacher per subject in three years of middle school. Most students who do not catch up in that one year never catch up. Some who do still struggle with advanced courses.
✱ Assume that each core subject area (math, science, language arts, social studies/history) has 9 teachers, one to three of whom are achieving excellent growth (see table).

Other facts about the school
✱ The school has seven class periods daily, and most core subject teachers teach six periods.
✱ The school has 150 Internet-connected desktop computers in three 50-desk labs.
✱ The school has 150 Internet-connected laptops on carts that can be used in any part of the school.
✱ All students have access to online learning programs in the core subjects.
✱ The principal, a former star teacher, is in her second year. The assistant principal is brand-new.
✱ The school has two full-time literacy coaches, two math coaches, a team of special education and English as a second language teachers, and other teachers (PE, art, music, world languages).
✱ The school also has one paraprofessional who supervises a large study hall each period, one computer maintenance person, and one computer lab monitor. Teachers currently must supervise student time in the other two computer labs, if they choose to use digital instruction.

Context
✱ A new statewide evaluation system bases 50% of a teacher’s evaluation on student outcomes.
✱ The district’s pay schedule rewards experience and degrees. Schools can apply for waivers to the schedule and to exchange teacher jobs for paraprofessionals, who earn half of average teacher pay.
✱ The school has a budget for the positions described above.
✱ Optional facts: The district has a union contract, and the union must approve any exemptions/waivers; OR this is not a contract district.

<table>
<thead>
<tr>
<th>Subject</th>
<th># of Students on Average</th>
<th># of Teachers</th>
<th># of Excellent Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>1200</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>English Language Arts</td>
<td>1200</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Science</td>
<td>1200</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Social Studies/History</td>
<td>1200</td>
<td>9</td>
<td>3</td>
</tr>
</tbody>
</table>

Acknowledgments This publication was made possible in part by support from Carnegie Corporation of New York and The Joyce Foundation. The statements made and views expressed are solely the responsibility of Public Impact. Public Impact encourages the sharing and copying of these materials. Users must include “©2014 Public Impact” and “OpportunityCulture.org” on all pages where material from this document appears. To learn more about the Opportunity Culture initiative, visit OpportunityCulture.org.