Do students learn more when their teachers work well together?

By Esther Quintero

Debates about how to improve educational outcomes for students often involve two “camps” — those who focus on the impact of “in-school factors” on student achievement and those who focus on “out-of-school factors.” There are many in-school factors discussed but improving the quality of individual teachers (or teachers’ human capital) is almost always touted as the main strategy for school improvement. Out-of-school factors are also numerous but proponents of this view tend toward addressing broad systemic problems such as poverty and inequality.

Social capital — the idea that relationships have value, that social ties provide access to important resources like knowledge and support, and that a group’s performance can often exceed that of the sum of its members — is something that rarely makes it into the conversation. But why does social capital matter?

Research suggests that teachers’ social capital may be just as important to student learning as their human capital. In fact, some studies indicate that if school improvement policies addressed teachers’ human and social capital simultaneously, they would go a long way toward mitigating the effects of poverty on student outcomes. Sounds good, right? The problem is: Current policy does not resemble this approach. Researchers, commentators and practitioners have shown and lamented that many of the strategies leveraged to increase teachers’ human capital often do so at the expense of eroding social capital in our schools. In other words, these approaches are moving us one step forward and two steps back.

I would argue — Daly and Finnigan did — that this somewhat broad and diffuse notion that relationships matter is not some warm and fuzzy idea, but rather that it could hold an important key to educational improvement. Social capital is malleable; policies can and do shape teachers’ professional networks and how they function. For example, Gamoran, Gunter and Williams (2005) showed that sustained and coherent professional development can be used to create strong collegial ties (or social capital) among teachers. Similarly, Sun, Frank, Penuel & Kim (2013) showed that strategies that promote informal teacher leadership can be a mechanism to disseminate effective classroom practices through interactions — something that formal leadership networks are not well-equipped to accomplish. Supovitz, Sirinides and May 2010 demonstrated that principals indirectly affect the instructional practice of teachers, which in turn produces improvements in student learning; thus, principals’ attention to concepts like ‘mission and goals’ or ‘community and trust’ have subtle yet real organizational influence. Finally, one could also imagine a set of policies that incentivized not just teacher collaboration, but entire schools within a district (or even across districts) working together, an approach that would bolster social capital and cohesiveness at another “level”: The entire system.
But let’s back up a little bit; why is social capital such a central concept? A number of studies suggest that good things happen for students in schools where teachers work together routinely. Here I review four empirical papers* showing that students learn more when their teachers are embedded in more supportive and collegial professional networks, and that teacher collaboration may have as great an effect on student achievement as teacher human capital. I hope, as do the authors of these papers, that this information “can be used to guide future investments in each [form of capital]” (p. 1103).

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Despite the importance of teacher interaction and collaboration our understanding of how they influence student outcomes is still limited (see also Datnow, 2012 and Penuel et al., 2009). In fact, few studies make that direct link.

Interestingly, some important work on this topic comes from organizational behavior scholars Carrie Leana and Frits K. Pil, both professors at the University of Pittsburgh. In one of their studies, these researchers found that “the structure and content of relationships among teachers (teachers’ social capital) significantly predicted school-level student achievement [as measured by their test scores in both reading and math].”**

Importantly, these effects were consistent across grades, and were sustained over multiple years. Instructional quality fully mediated the relationship between social capital and math achievement. In other words, students performed better in math because their teachers collaborated, thus improving their instruction. And, interestingly, the relationship between social capital and reading achievement was not mediated by instructional practices — social capital had direct positive effects on reading.

In a subsequent study, Pil and Leana 2009 looked at the relative contributions of social capital and human capital to student achievement.*** Consistent with previous scholarship, they found that there are “important benefits to students derived from the human capital of their teachers.” The authors also found that the strength of the relationships between teachers positively predicted student performance, and that teachers’ relationships moderated the impact of teacher ability on student learning.

Students of high-ability teachers outperformed those of low-ability teachers, but gains were highest among students whose teachers were both high ability (high human capital) and had stronger ties with their colleagues (strong social capital). Importantly, this work also found that even lower-ability teachers could perform as well as teachers of average ability if they had strong social capital.

When teachers trust one another, the authors explain, “they are more likely to reveal their weaknesses and perhaps address them using the support and guidance of their peers.”

Overall, Pil and Leana demonstrate that the impact of students’ socioeconomic status is quite profound: “student eligibility for free lunch is associated with a 7.6 percent
reduction in achievement growth.” At the same time, however, they found that teacher human and social capital have significant impacts on student achievement:

A one standard deviation gain in horizontal tie strength in teacher teams is associated with a 5.7 percent gain in student achievement. And the same gain in vertical tie strength between a teacher and her principal is associated with a 3.7 percent growth in achievement.

These results suggest that attention to both forms of teacher capital could help offset the disadvantages of students with low socioeconomic status.

The third study by Yasumoto, Uekawa and Bidwell (2001) examined the impact of teachers’ collegial relations on high school students’ mathematics and science achievement. The study results suggest that when teachers form collegial relationships the effects of their instructional practices on students’ achievement growth are greater.

As noted by the authors, these findings are “consistent with our characterization of collegially focal departments, and collegial foci more generally, as problem-solving communities.” According to Yasumoto and colleagues, they highlight “the importance of strong ties in the workplace, which ease the flow of information, provide collective ability to respond quickly and flexibly when problems of practice occur, and create capacity to ensure consistent performance throughout a work group.”

The fourth and final paper I will discuss is by Alan Daly and colleagues (Daly, Moolenaar, Der-Martirosian & Liou 2014). This study examined the relationship between social capital, as measured by teachers social position in a knowledge network about reading comprehension, and student achievement, as measured by an interim benchmark assessment. The authors found that the social capital of teachers was associated with higher student achievement on this assessment.****

As the researchers explain, “the act of reaching out to other teachers to share knowledge about reading comprehension [was] associated with higher student scores on the ELA interim benchmark assessment controlling for demographics and past performance.” Thus, the context of teachers’ work has to support this act of reaching out by being a climate of openness, trust, and risk taking, all of which are foundations of learning.

Taken together, these studies lend support for the premise that teachers’ social interactions and the characteristics of their professional networks have an impact on student learning over and above that of teachers’ human capital alone. This means that ‘tweaking’ schools’ social-relational level can help create environments that are more conducive to teacher collaboration and student learning. While research suggests that this is possible, we are, as noted above, far from addressing this issue via policy. In fact, many believe that the current policy climate, which favors and rewards competition, has decreased trust and morale among teachers, thus acting as a real impediment to achieving this cooperative vision of teaching.
The research discussed here, especially the work by Leana and Pil, suggests a radically different route to school improvement, and highlights the benefit of promoting professional interactions among teachers “as an approach to helping teachers of lower ability.”

The big message I hear is that maybe we don’t just need extraordinary individual teachers, but rather teachers of diverse abilities who work as a cohesive team. This seems like something to keep in mind when considering President Obama’s new initiative “Excellent Educators For All.” Perhaps it would be useful to recast it as “Excellent Teams of Educators For All.” The statistical fact is that most of us are neither exceptional nor awful, but rather somewhere in between. It is social capital that can move people from good to great, and this might be one way to help address the profound effects of poverty on students’ lives.

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* This is not intended to be a systematic review; there is important related work that is not discussed here. For example, Bryk and Schneider’s (2002) work in Chicago examining the relationship between ‘relational trust’ and school outcomes (including student achievement), or the work of Hargreaves and Fullan (2012) around teachers’ Professional Capital.

** Student performance was measured by the percentage of students who meet or exceed state standards for math and reading achievement in a given year. In addition to absolute levels of performance, the authors examined performance change from the school year preceding the study (1999–2000) through the focal school year (2000–2001), and the school year that followed the study (2001–2002). Thus, they are able to track change and also assess the extent to which social capital affected performance over time.

*** Student performance was measured using standardized achievement tests in mathematics and reading, with control variables for achievement in the prior year. Other student level controls included: special education status, attendance, and socioeconomic status. Measures of teacher human capital included: 1) education; 2) years taught at grade level; and 3) a task-specific measure, an assessment of teachers’ ability to teach mathematics.

**** Student achievement was measured by an Interim Benchmark Assessment, which the district administers three times over the course of the year. Teacher human capital was measured by years in education and years at the same school. School level control variables included school-level (mean) achievement scores, school-level (mean) prior achievement scores, school-level (mean) special education ratio and school-level socioeconomic status. Student level control variables included grade level, gender, special education status, school absences, socioeconomic status, and student prior year achievement.

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