Teacher Accountability and Incentives

State of the Evidence

Description of the Evidence

Teacher presence and motivation are both important factors influencing their ability to facilitate learning in students. Evidence from Indonesia (de Ree et al. 2018) and Malawi (Özler et al. 2016) demonstrates that unconditional salary increases may not lead to increases in teacher attendance, teacher knowledge or student learning (even when paired with training, as in the Malawi example).

However, financial rewards for teachers conditional on either increased effort or improved results (i.e. pay for performance or P4P) may be an effective strategy for improving student learning in contexts where teacher effort is particularly low. When P4P programs are effective, they should increase teacher effort and subsequently, student outcomes:

- **Attendance:** In India (Duflo et al. 2012), financial incentives based on attendance monitoring increased teacher attendance from 58 percent to 79 percent and student test scores by 0.17 standard deviations.
- **Performance:** In India (Muralidharan and Sundararaman 2011), performance pay increased student learning in math and language by 0.28 and 0.16 standard deviations, respectively, with increases in test scores spilling over into subjects not part of the incentive scheme. A pay-for-percentile system in China (Loyalka et al. 2019)increased learning for students but systems conditional on class averages or average school year gains did not. In Tanzania (Mbiti et al. 2019), performance pay increased student learning by 0.21 standard deviations on high-stakes exams, but had larger positive effects (0.36 standard deviations) when combined with school grants, suggesting that incentivizing teachers and providing them with more resources can have a complementary effect.

While research from a variety of contexts suggests that P4P may increase teacher motivation and student learning when teacher effort is particularly low, less is known about how to effectively implement such programs at scale through governments while maintaining the integrity of the tests used to determine teacher incentives. For example, teachers may try to find ways of working around the system to show higher test scores by replacing low-performing students with high-performing students to take the tests which determine teachers' incentives. In another example in Kenya (Kremer et al. 2010) test scores increased in the short but not long term, with evidence to suggest that teachers increased "cramming" and "teaching to the test" rather than providing more substantive methods of improving learning. One potential approach to mitigate these challenges is for governments to work with credible third-party organizations to conduct independent tests on which teacher incentives are based (rather than relying on tests that are part of the regular curriculum).

Other barriers may also hinder the effectiveness of P4P programs. For example, a program in Pakistan (Barrera-Osorio and Raju 2015) did not increase learning outcomes, perhaps due to additional constraints to learning that students faced or a lack of teacher capacity to raise scores. Providing incentives to teachers did not increase learning in Mexico (Behrman et al 2015), although providing a combined incentive to both teachers and students did.

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Ultimately, incentivizing teachers with the goal of increasing learning may be effective, but important considerations about context and implementation at scale remain.

Notes on Context

Programs that influence teacher accountability and incentives are more likely to be useful in contexts where current education systems are not holding teachers accountable or incentivizing them sufficiently already and there is therefore room for the programs to make a significant difference.

It is important to note that being incentivized to work harder does not necessarily raise teacher capacity or resources (highlighting the importance of the complementarity of incentives alongside increased resources). Incentivizing teachers in a context where their capacity remains low or where they do not have access to resources may not increase learning.

Furthermore, incentives do not erase other barriers to learning that students face. It is important to note that if strong barriers to learning exist in a context, incentivizing teachers may not be able to overcome those barriers.

Additionally, since some incentivization programs have resulted in the phenomenon of "teaching to the test," it is important to consider if the context in question is one that already places very high importance on specific tests and ask whether an incentive program will place further emphasis on that specific test rather than the fundamental skills being taught.

Equity Considerations

The outcomes that incentives are conditional on (e.g. enrollment and/or learning) could encourage teachers to focus on some aspects of schooling over others, e.g. aspects that are more malleable in their context, or some students over others, e.g. those who are performing close to the incentivized learning threshold. In Pakistan (Barrera-Osorio and Raju 2015), for example, incentives were conditional on a few factors but teachers in rural schools focused on increasing exam participation rates and teachers in urban schools focused on increasing school enrollment rates. Researchers suggest this is because teachers felt these were the most relevant and most malleable outcomes in their regions so making progress on these outcomes would still result in receiving incentives. However, teachers were not able to increase learning outcomes for children in either rural or urban areas. This focused attention may vary depending on the incentives' conditions and which issues are prevalent in the specific school or district. While more research is needed to understand these possible equity issues, it will be important to consider how P4P programs could increase the potential for unequal or uneven program impacts.

Operationalization

Generalizability

Drawing on J-PAL's Generalizability Framework, below are questions that will help you determine if a teacher's accountability and incentives programs might increase learning outcomes in your context. The below questions are not meant to be an exhaustive list of questions you will need to answer to determine if this type of program is appropriate for your context. They can, however, provide a starting point for applying the global evidence on this type of program to your specific context.

Local Conditions

- Is teacher absenteeism a problem in schools?
- Is teacher effort, motivation, or behavior when in school a problem? e.g. Do teachers spend most of their time on administrative duties or talking with other teachers etc, rather than in the class teaching?
- Are there certain regions where this might be a bigger challenge? Is there data showing teacher absenteeism, by region?

Generalized Lessons on Behavior

- Incentives conditional on outcomes that education systems care about (teacher absenteeism, teacher effort, student test scores) could be an effective way of improving those outcomes.
- However, further research is needed on how to implement these incentives at scale.
- Teacher performance pay conditional on test scores may have some danger of teaching to the test.

Local Implementation

- There are a few general factors to keep in mind for these types of programs. Are these feasible in the context?

  > Incentives should be tied to specific outcomes that the government cares about improving in schools (e.g. teacher attendance and performance).
  >
  > To implement teacher incentives, the government will need capacity to monitor teacher attendance or behavior either through government staff, NGO partner staff, or by leveraging technology.
  >
  > The right incentive for teachers may differ by context and from what existing research suggests.

- Are monetary incentives politically and financially feasible?
- Are there non-monetary incentives that may be used instead?
- Are there any groups that would resist teacher incentive and monitoring programs (e.g. teachers unions)?
- Are there any groups that could undermine the program? E.g. How likely are school principals or mid-level public officials to find a way to help teachers undermine an incentive program?

Successful Examples

- Encouraging Teacher Attendance through Monitoring with Cameras in Rural Udaipur, India (Duflo et al. 2012)
- More School Resources, Better Teacher Incentives, or Both to Improve Student Learning in Tanzania (Mbiti et al. 2019)
- Teacher Incentives Based on Students' Test Scores in Kenya (Kremer et al. 2010)

Further Action Options

For approaches with mixed evidence or high variation of effectiveness in the literature, more evidence generation is recommended to close evidence gaps. Based on the evidence for this category, potential next steps might include:

- Connecting with implementers to learn more about evidence-based programs in this category;
- Connecting with researchers to identify relevant open questions that would benefit from further research;
- Other activities to think through the policy implications and/or research needs of this evidence in your context

If you are interested in exploring these or other options, please contact the J-PAL Education team at, JPAL_Education@povertyactionlab.org, to set up an initial exploratory meeting. The team will be happy to brainstorm potential next steps.

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