

The impact of relational and collaboration skills on teachers' effectiveness: results from a large scale randomized controlled trial

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Research aims

Educational research showed that a crucial role in determining student achievement and school effectiveness is played by teachers. At the same time, teachers differ widely in their impact on student performances and previous studies has not been able to identify the sources of this variation. As a consequence, “teacher quality” (more recently called “teacher effectiveness”) remains mainly a black box, making it hard to design policies in order to increase it. In our opinion, previous attempt to explain teachers’ effectiveness failed due to the fact that they ignore a crucial factor, teachers’ relational skills. We consider teachers’ relational skills as their repertoire of practices in managing daily issues occurring with colleagues, students and parents.

In this study, our aim is twofold. Firstly, we test whether it is possible to foster teachers’ relational skills, as defined before and if they actively contribute in determining students’ achievement. Secondly, we test whether this improvement may be obtained through light touch training interventions or if it requires expensive investments in long-term teachers’ training. More precisely, our empirical research tests whether delivering teachers a list of practical tips on how to better managing on job relationships positively affect their self-efficacy and has an impact on their students’ academic performances.

Intervention

We developed our training program using an innovative methodological approach that combine the potential benefits of a bottom-up developmental framework with those deriving from the reduced training intensity and implementation costs of a light touch intervention. Its building up was based on a Delphi recursive deliberative process that directly involved Italian low secondary teachers in the definition of the training contents since the early stages of development.

The intervention took the form of a brief booklet and six short online videos dealing with several relational issues that teachers are called to face every day at school. In particular, the intervention provides a set of practical tips to better manage the on-job relationships with colleagues, students and parents.

The intervention was delivered using two different strategies: individual, with only Italian language and Math teachers engaged in the professional development one by one; collegial, with all teachers collectively engaged in the intervention. The hypothesis here is that the second delivery strategy should increase the intervention’s effectiveness thanks to the induced higher teachers’ collaboration within schools.

The RCT was registered (AEARCTR-0002252) and outcomes on teachers and students were pre-specified.

Impact evaluation design

The adoption of an experimental design allowed us to estimate the impact of the intervention on teachers and students in a particularly robust way. We designed a cluster randomized controlled trial involving 198 lower secondary schools located in eleven Italian provinces (sites).

98 schools were randomly assigned to the treatment condition, while the remaining 100 schools were considered as control group. Randomization took place with blocks based on provinces. In order to assess the differential effectiveness of individual and collegial treatment schools were randomly assigned to one of the two delivery strategies (49 + 49). Randomization was implemented by a researcher external to the project.

The training materials have been delivered to the teachers of the treated schools during the s.y. 2016/2017, while the control group received the intervention two years later.

Data

To assess the impact of the intervention we relied on three data sources:

- data collected among all the involved teachers in Math or Italian language (N = 2,300) before and after the first year of intervention;
- data collected among their 7th grade students (N=23,000) after the intervention;
- administrative data on students' performances, measured at the end of 8th grade through the INVALSI (Italian National Assessment Institute) standardized test scores and from teachers marks retrieved from the Italian Ministry of Education (both for 7th and 8th grades).

Results

Teachers appreciated the intervention: their take up rate was fairly high (70.5%) and similar for both delivery strategies.

Results at the end of the first year (the one of the intervention's delivery) show that the intervention was effective in producing a statistically significant impact on teachers' self-efficacy, which is indeed a relevant predictor of students' achievement. Effect size on teachers' self-efficacy - estimated through ITT models - was 0.093 (0.113 for collegial delivery and 0.074 for individual). The impact was higher on the sub-dimension of teachers' self-efficacy in classroom management. Moreover, we found hints of positive impacts on students: their average marks in Italian and Mathematics at the end of the 7th grade were higher than the one obtained by control group pupils. In addition, treated students' pass rate to 8th grade was higher (+0.8%).

Results at the end of the second year (the one following the delivery) confirmed the intervention's effectiveness also on students. Not only the treatment improved their interest towards Italian language and Mathematics, but students whom teachers were treated displayed higher achievement in standardized tests score for both subjects. Effect sizes (ITT) on students' achievement as measured by INVALSI (Italian National Assessment Institute) are 0.095 in Reading and 0.128 in Mathematics. Impacts are higher again for collective delivery (respectively 0.117 and 0.169) compared to the individual one (0.070 and 0.081).

Conclusion

The general picture emerging from different impact estimates on several independent measures of teachers and students outcomes is coherent. Overall, the available evidence confirms that teachers' relational skills are a relevant leverage for teachers' self-efficacy, producing also positive effects on students' performances. In addition, teachers' ability in managing relational issues may be improved through light touch interventions and their effectiveness may even be magnified by teachers' collaboration within schools.