

Teacher Quality and Student Achievement: Evidence from a Dutch Sample of Twins.

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Abstract

This paper uses data on twin pairs who entered the same school but were randomly allocated to different classrooms to examine the causal link that runs from classroom quality to student achievement. In particular, we use twin fixed-effects estimation to estimate the effect of teacher quality on student test scores from second through eight grade, arguing that a change in teacher quality is probably the most important classroom intervention within a twin context.

In a series of estimations using measurable teacher characteristics, we find that (a) the test performance of all students improve with teacher experience; (b) the teacher experience effect is concentrated later on in the teaching career; (c) the teacher experience effect is most prominent in earlier grades. In our twin experiment, we should note that the randomization occurs over classroom quality and not over classroom teachers. If schools try to equalize classroom quality across different classes, as survey evidence suggests, the estimates of the effect of teacher quality on student outcomes can be interpreted as meaningful lower bounds.

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