

# Encyclopedia of Education Economics & Finance

## Teacher Experience

Contributors: Sean P. Corcoran & Emilyn Ruble Whitesell  
Editors: Dominic J. Brewer & Lawrence O. Picus  
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Economists of education have long been interested in whether and how teacher experience “matters” for school productivity. In part, this interest was driven by data availability: Teacher experience was one of few school resource measures available for estimating education production functions (along with teacher salaries, degree attainment, and spending per pupil). But teacher experience is important to researchers for at least two other reasons. First, [p. 757 ↓ ] a long-established finding in labor economics is that worker productivity increases with experience, usually peaking at some point midcareer. Considerable attention has been given to estimating the analogous “returns” to experience in the classroom. Second, teacher salaries, which account for a substantial share of educational costs, are typically tied to years of experience. Understanding how teacher experience relates to educational outcomes is thus an important step toward the efficient allocation of scarce resources. This entry begins by describing the level of experience in the teacher workforce and how it is distributed across states, districts, and schools. It then briefly reviews evidence on the importance of teacher experience to student outcomes. Finally, it closes by highlighting key questions for future research.

The experience profile of the teacher workforce has varied over time. According to the National Center for Education Statistics, the average public school teacher in 2007–2008 had 13 years of experience, and nearly half (47%) had been teaching for fewer than 10 years. The latter reflects a greening of the teaching pool, as novices replaced a wave of retiring baby boomers: From 1993–1994 to 2007–2008, the share of public school teachers with fewer than 3 years of experience increased from less than 10% to 13%; at the other end of the spectrum, the share of teachers with at least 10 years of experience decreased from 65% to 53%.

National averages conceal variation in experience across states, districts, and schools. For example, rapidly growing states like Arizona tend to have more recently hired, inexperienced teachers, while slow-growth states like South Dakota tend to have more experienced teachers. (In 2007–2008, the average teacher in these two states had 11 and 15.5 years of experience, respectively; 28% of Arizona teachers had fewer than 4 years of experience compared with 15% in South Dakota.) Teacher experience tends to be higher, on average, in traditional public schools (13.1 years) than in private (11.6 years) and charter schools (7.5 years), and numerous studies find inexperienced

teachers disproportionately employed by economically disadvantaged and racially isolated schools and districts. In their study of teachers in New York State, Hamilton Lankford, Susanna Loeb, and James Wyckoff reported that 11.8% of poor students in the state were taught by first-year teachers, versus 9.8% of nonpoor students. Similarly, 9.9% of non-White students had novice teachers, versus 6.7% of White students. Charles Clotfelter, Helen Ladd, and Jacob Vigdor found similar patterns in North Carolina.

The uneven distribution of teacher experience has equity consequences, as research finds it is one of the few observed teacher characteristics associated with student achievement. In these studies, economists seek to estimate the “return” to experience—that is, how much learning or educational outcomes change, on average, when students are taught by a more experienced teacher. Measuring the *causal* impact of experience is difficult, however, because teachers are not randomly allocated across classrooms. As noted, experienced teachers are more likely to be found in educationally advantaged settings, so that researchers must distinguish causal impacts from the correlation that arises due to teacher sorting. It may also be that effective teachers are less (or more) likely to leave the profession than less effective teachers, such that the observed returns to experience reflect a change in the composition of teachers. These empirical issues are a more serious concern in studies that rely on cross-sectional data, or relate aggregate outcomes at the district or school level to average teacher experience. Stronger research designs use longitudinal data on individual students matched to their teachers to isolate the impact of experience.

The most convincing estimates of the return to experience find that the average teacher becomes more effective at increasing student achievement in each of her first several years but does not continue to improve beyond that point. In his review of the literature, Dan Goldhaber concludes that the greatest returns to experience are in the first 3 to 5 years of a teacher’s career. Though the bulk of the literature finds small or insignificant returns to experience after the initial years, emerging research suggests that the models used in previous studies may be overly restrictive and that there may be greater returns to higher levels of teacher experience than was previously thought.

There are a number of understudied questions related to the role of teacher experience in school productivity. First, teacher experience may matter more for some populations

of students than for others. Little is known about how the importance of experience varies across students. Second, the vast majority of studies on teacher experience examine its impact on achievement as measured by test scores. The value of these estimates may be limited by the properties of the test used, and the impact of experience may go beyond its direct effect on instructional quality. For example, experienced [p. 758 ↓ ] teachers may have multiple roles within the school or may improve the effectiveness of less experienced teachers through peer effects. Finally, we know little about *why* teacher experience matters—that is, what it is that experienced teachers do that makes them more productive. New and emerging data on teacher practices may help identify key mechanisms behind these effects.

**See also** [Education Production Functions and Productivity](#); [Salary Schedule](#); [Teacher Supply](#); [Teacher Value-Added Measures](#)

Sean P. Corcoran Emilyn Ruble Whitesell

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Further Readings

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