

ASCD

Association for Supervision and Curriculum Development
1703 N. Beauregard Street, Alexandria, VA 22311-1714 (703) 578-9600

Suggested Citation:

Papay, J.P. & Kraft, M.A. (2016) The Myth of the Teacher Performance Plateau
Educational Leadership, 73(8). 36-42.

Online Version:

<http://www.ascd.org/publications/educational-leadership/may16/vol73/num08/The-Myth-of-the-Performance-Plateau.aspx>

The Myth of the Teacher Performance Plateau

John P. Papay and Matthew A. Kraft

It's almost accepted as fact that teachers don't improve after their first few years on the job. New research challenges this common assumption.

Efforts to improve the quality of the teacher workforce have risen to the top of the education policy agenda during the past decade. More than ever, policymakers are drawing on research to inform their positions. One research finding that policymakers cite consistently in conversations about teaching quality is that teachers face a “performance plateau” after their first few years of teaching.

27 On average, the argument goes, teachers don't improve their effectiveness
28 after their first few years in the classroom. For much of the past decade, this
29 "performance plateau" has been characterized as a fact in the research literature
30 (Rice, 2013; TNTP, 2012), and this idea has profoundly affected education policy.
31 For example, a 2012 fact sheet by TNTP reported that "teachers gradually reach a
32 plateau after 3-5 years on the job," and Bill Gates asserted in 2009 that "once
33 somebody has taught for three years, their teaching quality does not change
34 thereafter."

35 But new research, including our own, not only calls this conclusion into
36 question, but also suggests that teachers can continue to improve substantially after
37 the first five years. Using 10 years of data from a large urban U.S. school district
38 and looking at how teachers' contributions to student standardized test scores
39 changed as they gained experience, we found evidence that teachers do continue to
40 improve over the course of their careers (Papay & Kraft, 2015).

41 In Figure 1, we present the estimated returns (in student achievement) to
42 years of experience for mathematics teachers in our sample. As is common with
43 nearly all professions, teachers improved most rapidly in their first few years on the
44 job. However, our estimates showed teachers continuing to improve, at least in their
45 ability to raise student test scores, well beyond these initial years. In fact, estimates
46 suggest that 35 percent of a teacher's career improvement happens after year 10.

47 These results have resonated with many teachers and school leaders, who
48 report anecdotally that teachers continue to refine their practice and invest in
49 improvement well into their careers. At minimum, our evidence shows that the
50 question of how much teachers improve after the first few years of teaching isn't
51 settled.

52 We also found, however, that teachers vary a great deal in how much they
53 improve over time. Some teachers do plateau, whereas others continue to improve.
54 And, teachers in some schools improve at greater rates than others. Thus, schools
55 appear to play an important role in promoting or constraining a teacher's
56 professional growth. These findings challenge the common characterization of
57 "teacher quality" as a fixed characteristic of an individual teacher. We believe
58 policymakers need to change this fixed characterization so we can focus our efforts
59 on learning how teachers improve over time and what role the school plays in
60 supporting improvement.

61

62 **It's Complicated**

63 The question of how teachers improve over the course of their careers is difficult to
64 study quantitatively. Our results are different from those commonly cited in the
65 policy arena for two main reasons. First, our estimates compared teachers who were
66 10-year veterans in 2015 to *themselves* as novices in 2005--not to different novice

67 teachers in 2015. We call this focus on how individual teachers improve over time
68 the “within-teacher returns to experience.” Comparing cohorts of teachers to one
69 another, as some studies have done, answers a different question.

70 Second, to examine how teacher effectiveness changes as teachers gain
71 experience, researchers must rely on one of several different assumptions. Not
72 surprisingly, which assumption they choose matters. We analyzed our data set in
73 different ways, using several different assumptions,¹ and found the same general
74 pattern: teachers improved throughout their careers in the district we studied. Our
75 results mirror those of several other recent studies (for example, Harris & Sass,
76 2011; Ladd & Sorenson, in press) and reflect a growing body of research that
77 provides examples of ways schools are promoting veteran teachers’ effectiveness.

78 Our findings don’t cover all aspects of teachers’ effectiveness, of course.
79 They focus on one narrow slice of teachers’ work in schools--their ability to raise
80 student test scores in mathematics and reading. Studies show that teachers also
81 affect a range of non-tested student outcomes, such as attendance, self-efficacy, and
82 perseverance (Blazar & Kraft, 2015; Gershenson, 2016; Jackson, 2012; Kraft &
83 Grace, 2016), and that those teachers who demonstrate strong ability to raise
84 student achievement on tests aren’t necessarily the ones who best develop students’
85 academic behaviors and mindsets. Veteran teachers’ impact also extends beyond
86 their students. Experienced teachers can mentor colleagues, maintain institutional

87 knowledge, serve in teacher leadership roles, and support a strong professional
88 environment.

89

90 **How Can Schools Promote Teacher Improvement?**

91 Although how teachers improve on average is an interesting academic question, the
92 more practical question is, What conditions support continued teacher
93 development? In a recent study, we found that teachers working in schools with
94 strong professional environments improved much more than teachers in schools
95 with weak professional environments (Kraft & Papay, 2014). We used six measures
96 drawn from teacher surveys to characterize the professional environment: consistent
97 order and discipline, opportunities for peer collaboration, supportive principal
98 leadership, effective professional development, a school culture characterized by
99 trust, and a fair teacher evaluation process providing meaningful feedback.

100 As Figure 2 shows, in schools with relatively supportive work environments
101 (the top line), teachers improved at much greater rates than did their peers in
102 schools with relatively unsupportive environments (bottom line). These differences
103 are substantial. They suggest that a given teacher will be 39 percent more effective
104 by year 10 if he or she works in a supportive school than if he or she works in a less
105 supportive one. Strong work environments create better learning opportunities for
106 everyone.

107

108 **Promising Levers**

109 If teachers improve more in broadly supportive work environments, we need to
110 consider what specific policies and practices schools should adopt to offer that
111 support and promote teacher development. Although attempting to identify any
112 silver bullet is a fool’s errand, rigorous studies have identified several promising
113 approaches.

114

115 ***Peer Collaboration***

116 Evidence suggests that veteran teachers can become better teachers if they work in
117 schools with effective systems of peer collaboration. A study by researchers from
118 the University of Michigan and Vanderbilt showed that teachers in Miami-Dade
119 County Public Schools in Florida improved at substantially faster rates in schools
120 where strong collaboration took place through instructional teams (Ronfeldt et al.,
121 2015). Our own work, with Susan Moore Johnson and the Project on the Next
122 Generation of Teachers, described in her article on page **, examines the ways in
123 which instructional teams can support (or constrain) teacher effectiveness. These
124 studies build on a body of literature showing that teachers who work with more
125 effective colleagues improve more (Jackson & Bruegmann, 2012).

126

127 ***Teacher Evaluation***

128 In the past decade, many states and school districts have reformed their teacher
129 evaluation systems to hold teachers more accountable for their performance and to
130 provide more detailed feedback. These systems hold tremendous promise for
131 supporting teacher development as long as they provide teachers with detailed
132 feedback about how to improve their classroom practices. For example, Eric Taylor
133 and John Tyler (2012) showed that experienced teachers who participated in a
134 rigorous teacher evaluation system in Cincinnati, Ohio, improved their classroom
135 effectiveness, not only in the year they were evaluated, but also in future years.
136 Steinberg and Sartain's (2015) analysis of one pilot evaluation system documented
137 significant improvements in teachers' ability to improve reading achievement--
138 when principals received substantial training and support as they carried out cycles
139 of teacher observation followed by feedback.

140 Another model is Peer Assistance and Review (PAR) programs, which exist
141 in a few dozen school systems across the country and have proven effective at
142 improving the instructional skills of low-performing veteran teachers (Papay &
143 Johnson, 2012). In this model, expert consulting teachers provide intensive support
144 and conduct high-stakes evaluations for low-performing experienced teachers and
145 novices.

146

147 ***Tailored On-the-Job Training***

148 In recent years, “teacher professional development” has been disparaged. Many
149 reports have noted the mismatch between the huge sums of money spent on such
150 programs and the limited evidence of effectiveness of these investments (TNTP,
151 2015; Yoon et al., 2007). However, although broad-based professional development
152 efforts may be ineffective, recent research paints a more optimistic picture of
153 targeted efforts to provide on-the-job training.

154 Several studies have shown that interventions that involve individualized
155 coaching and that offer context-specific, narrowly tailored professional
156 development improve teacher effectiveness (for example, Allen et al., 2011; Blazar
157 & Kraft, 2015; Papay et al., 2016; Powell et al., 2010). Coaching programs differ
158 substantially in their design and focus, but those programs with demonstrated
159 evidence of success often share these elements: They are individualized; intensive,
160 involving frequent coaching sessions; sustained over a full year or more; tailored to
161 classroom contexts; and focused on a manageable set of specific skills.

162

163 ***Organizational Supports***

164 A recent study by Susan Moore Johnson’s Project on the Next Generation of
165 Teachers at Harvard University (in which we participated) suggests that specific
166 organizational supports played a key role in facilitating teachers’ abilities to

167 succeed with their students (Kraft et al., 2015). The study involved in-depth case
168 studies of teachers' experiences in six high-poverty, majority-minority, urban public
169 schools. (See Susan Moore Johnson's article in this issue on p.**).

170 Across the schools, teachers described how valuable it was when their school
171 established an orderly, disciplined learning environment, offered services that
172 helped meet students' social and emotional needs, and engaged parents. Teachers
173 spoke convincingly about how these organizational initiatives enabled them to not
174 only succeed with their current students, but also continue to improve their practice
175 over time. For example, teachers and administrators at several schools emphasized
176 breaking down communication barriers by hosting parents at engagement activities
177 at school and in the community. Teachers reported that these efforts paid off when
178 students had difficulties and they could call parents whom they knew to seek out
179 support and advice.

180 Often times, the clearest evidence of the importance of the school
181 environment came from contrasts across schools. For example, teachers that we
182 interviewed at two high schools serving similar student populations spoke about
183 starkly different experiences with student discipline. In one school, teachers were
184 expected to deal with student behavioral challenges individually, in their classroom
185 or in the hallways. The lack of consistent policies, consequences and regular
186 follow-through by school administrators left teachers frustrated. Many said that the

187 school's lack of order and discipline made them less effective instructors. By
188 contrast, teachers in a different high school found that the administration's efforts to
189 create clear policies and to enforce them consistently, with support for any
190 transgressions, had helped to create an environment conducive to learning.

191 School principals play a key role in fostering productive professional
192 environments in schools. They are the ones who establish strong organizational
193 supports and build growth enhancing schoolwide cultures. Hiring principals who
194 have the talent to identify organizational weaknesses, establish schoolwide systems
195 to support teachers and students, and galvanize collective buy-in from teachers is a
196 central lever for improving the teaching and learning environment.

197 Of course, in all these examples, the devil is in the details. Collaboration
198 through teams is only effective if these teams are structured well and aligned with
199 teachers' needs and interests. Evaluation systems that place too much emphasis on
200 accountability without opportunities for teachers to receive and act on valid,
201 detailed feedback are unlikely to lead to lasting improvements. Professional
202 development investments are easily squandered when they neglect teacher agency,
203 and schoolwide supports must be tailored to each specific school context.

204 Nonetheless, we see each of these approaches as a promising way forward.

205

206 **Improving Our Improvement Efforts**

207 Any serious policy conversation about improving instructional quality in the United
208 States must grapple with the question of how to promote teacher improvement. If
209 policy reforms ignore the value of developing teachers and of leveraging the
210 accumulated knowledge of experienced teachers, these reforms will likely fall short
211 of their goals. Teachers who have the supports necessary to improve are likely to
212 invest in their own professional growth, feel a sense of success, and remain in the
213 classroom (Johnson & Birkland, 2003). This is important because high rates of
214 teacher turnover are detrimental to instructional coherence and student learning
215 (Ronfeldt et al., 2013).

216 The sheer size of the teacher labor market, with more than 3.5 million K-12
217 educators, necessitates policy solutions that center on helping current teachers get
218 better. At this scale, even small improvements in educator effectiveness would
219 result in meaningful changes for students and, eventually, the economy.

220 When people view the discouraging evidence that often surfaces as research
221 examines whether professional development efforts lead to longstanding teacher
222 improvement, they usually choose one of two common responses--to abandon
223 efforts to develop teachers or to improve those efforts. Our research supports
224 choosing the second option, because it indicates that entire districts are capable of
225 promoting sustained improvement for teachers beyond the supposed five-year
226 plateau. Although there's no one blueprint for improving on-the-job training and

227 providing supports for teacher growth (and some efforts will inevitably fail), such
228 efforts have real potential. We hope policymakers and educators continue to invest
229 in these supports so that the teaching profession will be a learning profession
230 throughout teachers' entire careers.

231

232 **References**

233 Allen, J.P., Pianta, R.C., Gregory, A., Mikami, A.Y., & Lun, J. (2011). An
234 interaction-based approach to enhancing secondary school instruction and
235 student achievement. *Science*, 333, 1034-1037.

236 Blazar, D., & Kraft, M.A. (in press). Exploring mechanisms of effective teacher
237 coaching: Results from two cohorts of an experimental evaluation. *Educational*
238 *Evaluation and Policy Analysis*.

239 Blazar, D., & Kraft, M. (2015). Teacher and teaching effects on students' academic
240 behavior and mindsets. Mathematica Policy Research Working Paper.

241 Gershenson, S. (2016). Linking teacher quality, student attendance, and student
242 achievement. *Education Finance and Policy*, 11(2)

243 Harris, D., & Sass, T. (2011). Teacher training, teacher quality, and student
244 achievement. *Journal of Public Economics*, 95, 798-812.

245 Jackson, C.K., & Bruegmann, E. (2009). Teaching students and teaching each
246 other: the importance of peer learning for teachers. *American Economic Journal:*

247 *Applied Economics*, 1(4), 85-108.

248 Johnson, S.M., & Birkeland S.E. (2003). Pursuing a ‘sense of success’: New
249 teachers explain their career decisions. *American Educational Research Journal*,
250 40(3), 581-617.

251 Kardos, S.M., & Johnson, S.M. (2007). On their own and presumed expert: New
252 teachers’ experience with their colleagues. *Teachers College Record*, 109(9),
253 2083-2106.

254 Kraft, M.A. & Grace, S. (2016). Teaching for tomorrow’s economy? Teacher
255 effects on complex cognitive skills and social-emotional competencies. Brown
256 University Working Paper.

257 Kraft, M.A., & Papay, J.P. (2014). Can professional environments in schools
258 promote teacher development? Explaining heterogeneity in returns to teaching
259 experience. *Educational Evaluation and Policy Analysis*, 36(4), 476-500

260 Ladd, H.F., & Sorensen, L.C. (in press). Returns to teacher experience: Student
261 achievement and motivation in middle school. *Education Finance and Policy*.

262 Papay, J.P., & Johnson, S.M. (2012). Is PAR a Good Investment? Understanding
263 the Costs and Benefits of Teacher Peer Assistance and Review Programs.
264 *Educational Policy*, 26(5), 696-729.

265 Papay, J.P., & Kraft, M.A. (2015). Productivity Returns to Experience in the
266 Teacher Labor Market: Methodological Challenges and New Evidence on Long-

267 Term Career Growth. *Journal of Public Economics*, 130(October), 105-119.

268 Papay, J.P., Taylor, E.S., Tyler, J.H., & Laski, M.E. (2016). Learning job skills
269 from colleagues at work: Evidence from a field experiment using teacher
270 performance data. National Bureau of Economic Research Working Paper
271 21986.

272 Powell, D. R., Diamond, K. E., Burchinal, M. R., & Koehler, M. J. (2010). Effects
273 of an early literacy professional development intervention on head start teachers
274 and children. *Journal of Educational Psychology*, 102(2), 299-312.

275 Rice, J. K. (2013). Learning from experience? Evidence on the impact and
276 distribution of teacher experience and the implications for teacher policy.
277 *Education Finance and Policy*, 8(3): 332–348.

278 Ronfeldt, M., Farmer, S.O., McQueen, K., & Grissom, J.A. (2015). Teacher
279 collaboration in instructional teams and student achievement. *American*
280 *Educational Research Journal*, 52(3), 475-514.

281 Ronfeldt, M., Loeb, S., & Wyckoff, J. (2016). How teacher turnover harms student
282 achievement. *American Educational Research Journal*, 50(1), 4-36.

283 Steinberg, M., & Sartain, L. (2015). Does teacher evaluation improve school
284 performance? Experimental evidence from Chicago’s Excellence in Teaching
285 Project. *Education Finance and Policy*, 10(4), 535-572.

286 Taylor, E.S., & Tyler, J.H. (2012). The effect of evaluation on teacher performance.

287 *American Economic Review*, 102(7), 3628-51.

288 TNTP. (2012). *Teacher experience: What does the research say?*. New York:
289 Author.

290 TNTP. (2015). *The Mirage*. New York: Author.

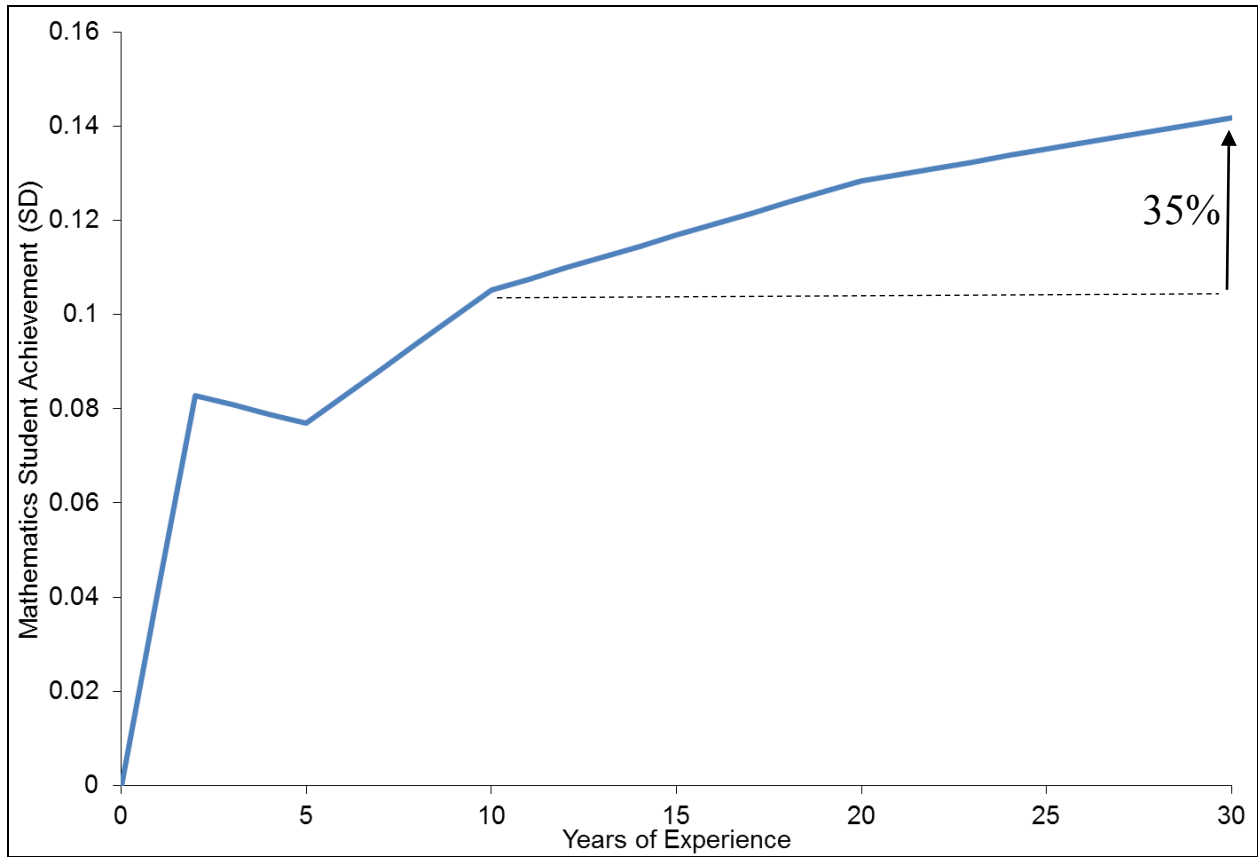
291 Yoon, K. S., Duncan, T., Lee, S. W., Scarloss, B., & Shapley, K. (2007).
292 *Reviewing the Evidence on How Teacher Professional Development Affects*
293 *Student Achievement: Issues & Answers Report*, REL 2007–No. 033.
294 Washington, DC: US Department of Education, Institute of Education Sciences.

295

296 John P. Papay (john_papay@brown.edu) is assistant professor of education and
297 economics at Brown University in Providence, Rhode Island, and Matthew A. Kraft
298 (mkraft@brown.edu) is assistant professor of education and economics at Brown
299 University in Providence, Rhode Island.

300

301 Figure 1. Estimated returns to years of teaching experience for mathematics teachers.

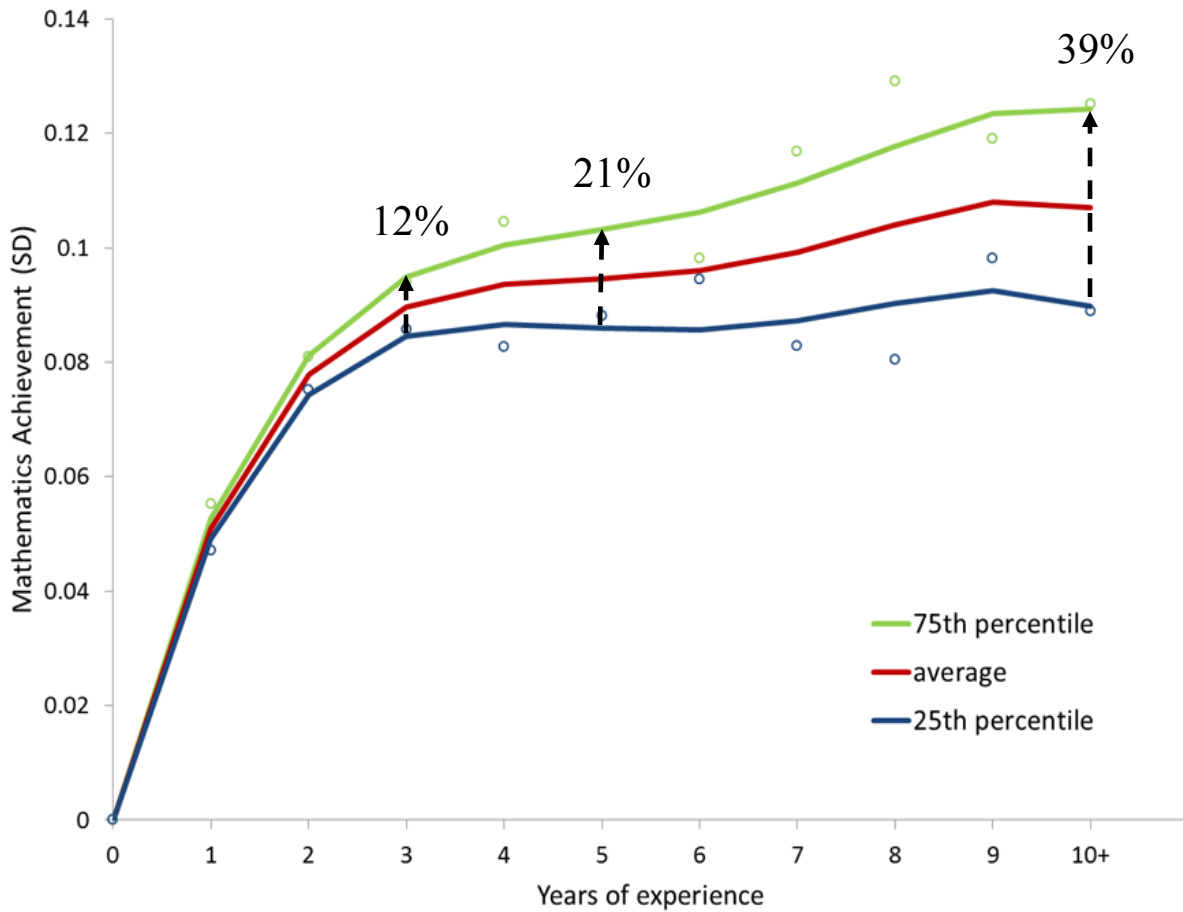


302
303
304
305
306

Source: From “Productivity Returns to Experience in the Teacher Labor Market” by J. P. Papay and M. A. Kraft in *Journal of Public Economics* (October, 2015). Adapted with permission.

307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330

Figure 2. Predicted returns to years of teaching across schools with strong, average, and weak professional environments.



331
332
333
334
335
336
337

Source: From “Can Professional Environments in Schools Promote Teacher Development? Explaining Heterogeneity in Returns to Teaching Experience” by M.A. Kraft and J. P. Papay in *Educational Evaluation and Policy Analysis* (December, 2014). Adapted with permission.