

What do we know about improving groups of schools? Lessons from the USA

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Using evidence



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Executive summary

The Confederation of School Trusts has recently released a conceptual model for how trusts improve their schools (Rollet, 2024).¹ The 'Curate clear goals' strand of this conceptual model emphasises the need for trusts to use evidence to support their decision making. However, while there is now considerable evidence around how to organise teaching and learning, there remains a lack of evidence about how trusts should go about improving groups of schools. This is partly because trusts are a relatively recent development in England.

This paper reviews evidence from the USA, where there is a much longer history of efforts to improve groups of schools based on federal turnaround initiatives, charter school reforms, and school district reforms. Research in these areas has begun to mature in recent years, providing a body of evidence that can help to inform decisions by trust leaders. The available evidence suggests the following seven conclusions:

1. Successful school turnaround at scale is possible (Schueler et al., 2022). It is also possible to scale up effective schools while maintaining quality (Cohodes et al., 2021; Knechtel et al., 2015).
2. However, it takes about three years for the benefits of school turnaround efforts to emerge (Chin et al., 2017; Schueler et al., 2017; Schueler et al., 2022). Trust leaders must give school improvement adequate time.
3. School turnaround efforts can be undermined by lack of focus, poor communication, or failing to retain good teachers (Heissel et al., 2018; Henry et al., 2020; Strunk et al., 2016).
4. Charter schools have been successful relative to nearby schools, particularly where they have used 'no excuses' practices with an emphasis on high expectations and consistent school-wide behaviour standards (Angrist et al., 2013; Cheng et al., 2017). This appears to raise the quality and consistency of teaching, likely by reducing disruption (Cohodes et al., 2021).
5. Selectively replacing less effective teachers is also a common component of effective school turnaround efforts (Schueler et al., 2022). This also has positive spillover benefits for the teachers that remain in the school (Pham, 2023).
6. Paying teachers more has an important role to play in school improvement, through attracting effective teachers (Figlio, 2002; Hendricks, 2015; Biasi, 2018).
7. As a means of delivering improvement at scale, data-driven instruction and curriculum reform have a much weaker evidence base (Carlson et al., 2011; Furgeson et al. 2012; Knechtel et al., 2015; May and Robinson, 2007; Slavin et al., 2013; Tuttle et al., 2015).

Trust leaders in England will of course need to carefully consider the applicability of these findings to their own contexts, accounting for their values, budget constraints and the legal context in England.

¹ Rollett, S (2024). *The DNA of trust-led school improvement: a conceptual model*. Confederation of School Trusts



Learning from 25 years of federal school turnaround initiatives

Education in the US is primarily the responsibility of states and local school districts. However, there is a long history of federal initiatives providing funding to targeted groups of schools, conditional on them adopting certain changes to their practice. This goes back at least as far as the Comprehensive School Reform Demonstration initiative (1997), and then continued with No Child Left Behind (2002), the American Recovery and Investment Act (2009), and Every Student Succeeds (2015). Collectively, they represent a sustained, large-scale attempt at improving schools, which has spawned a large social scientific literature evaluating 'what works' in this area. This evidence is relevant to school trusts in England because it speaks to effectiveness of at-scale school turnaround efforts, often focused on low performing schools.

Schueler et al. (2022) summarise the results from 67 quasi-experimental evaluations of such initiatives conducted between 2000 and 2019.² They find that turnaround efforts have an average effect on student maths, science and humanities achievement equivalent to approximately one additional month of student progress (effect size of 0.06-0.09). However, as is common in empirical research, there was no detectable effect on English language arts (ELA). They also find that benefits take time to emerge - typically around three years. Trust leaders should keep this in mind as they pursue school improvement.

Not all turnaround initiatives have been successful and some research has carefully explored the reasons for this. For example, Heissel et al. (2018) found that a turnaround initiative in North Carolina did not improve student achievement, most likely because it created additional administrative burdens for teachers.³ Analogously, Strunk et al. (2016) found that the success of a turnaround initiative in LA varied dramatically over time, apparently because of confusion around implementation in schools that took part in later cohorts.⁴ This suggests that focus and clarity are critical for successful implementation of school turnaround efforts.

The various federal initiatives mentioned above required schools to adopt slightly different improvement models, each of which was comprised of a set of different components (for example, extended learning time). Schueler et al. (2022) also investigated which reform models were associated with improved student outcomes. The results of this analysis are shown in figure 1. For each component, there are two bars, showing the average impact with and without the component in question. Black

2 Schueler, B E, Asher, C A, Larned, K E, Mehrotra, S, and Pollard, C (2022). [Improving low-performing schools: A meta-analysis of impact evaluation studies](#). *American Educational Research Journal*, 59(5), 975-1010

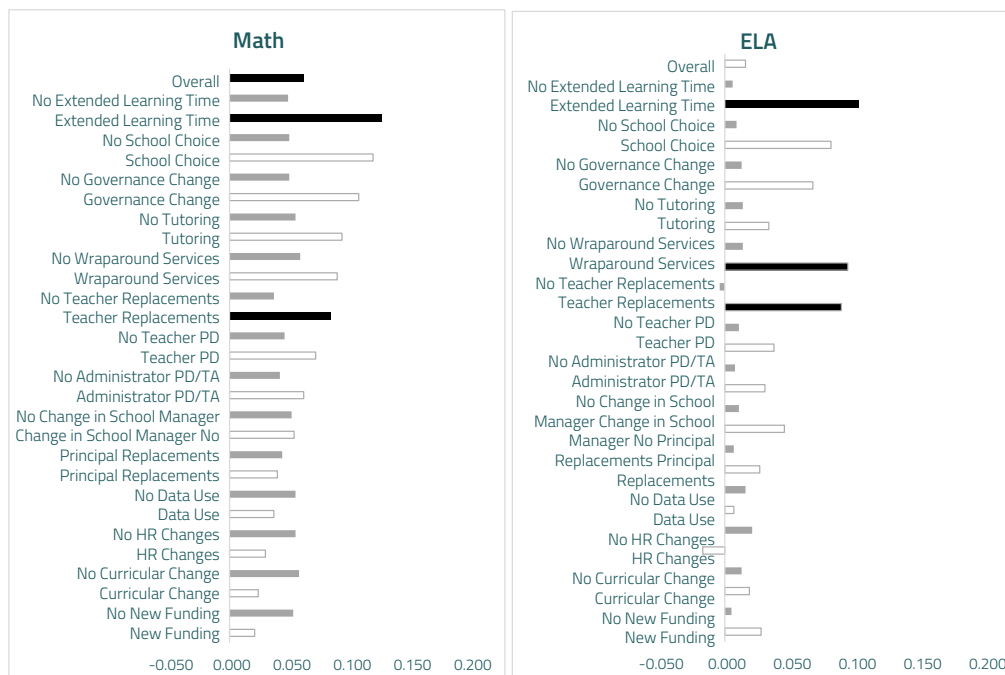
3 Heissel, J A, and Ladd, H F (2018). [School turnaround in North Carolina: A regression discontinuity analysis](#). *Economics of Education Review*, 62, 302-320

4 Strunk, K O, Marsh, J A, Hashim, A K, Bush-Mecenas, S, and Weinstein, T (2016). The impact of turnaround reform on student outcomes: Evidence and insights from the Los Angeles Unified School District. *Education Finance and Policy*, 11(3), 251-282



bars indicate where a component had a detectable (statistically significant) positive relationship with the impact on pupil test scores in maths (left panel) and English language arts (ELA; right panel).

The results are consistent across the two panels. Introducing extended learning time (more lessons per day) and replacing less effective teachers are both associated with larger improvements in pupil outcomes. Both of these findings are consistent with independent evidence that longer school days (Aguero et al., 2021; Figlio et al., 2018)⁵ and 'strategic retention' of more effective teachers by leaders (Grissom and Bartanen, 2019)⁶ improve pupil learning outcomes.



Note: Each pair (with and without a particular intervention feature) represent a separate regression. In other words, we include one intervention feature in each model. Bars in black represent differences where $p < .10$ (comparing with and without the feature).

Figure 1: Features of effective federal turnaround initiatives (Schueler et al., 2022)

Three studies have looked 'inside the black box' to understand how successful federal turnaround initiatives have improved outcomes. Sun et al. (2017) investigated a successful initiative in San Francisco schools, finding that the benefits appear to have occurred partly through decreased retention of teachers who had been at the school for some time and partly through improved retention of more effective (high value-added) teachers.⁷ Henry et al. (2020) reach similar conclusions for two successful initiatives in Tennessee.⁸ They find that approximately 40% of improvements are accounted for by schools initially attracting more effective (higher value-added) teachers. However, they also found that benefits were suppressed (reduced) in subsequent years if schools experienced continued high turnover resulting in a less experienced staff body.

The third study (Pham, 2023) uses rich staff survey data to provide a more detailed look at how an initiative in the Shelby County school district improved pupil

5 Agüero, J, Favara, M, Porter, C, and Sánchez, A (2021). [Do more school resources increase learning outcomes? Evidence from an extended school-day reform](#); Figlio, D, Holden, K L, and Ozek, U (2018). Do students benefit from longer school days? Regression discontinuity evidence from Florida's additional hour of literacy instruction. *Economics of Education Review*, 67, 171-183;

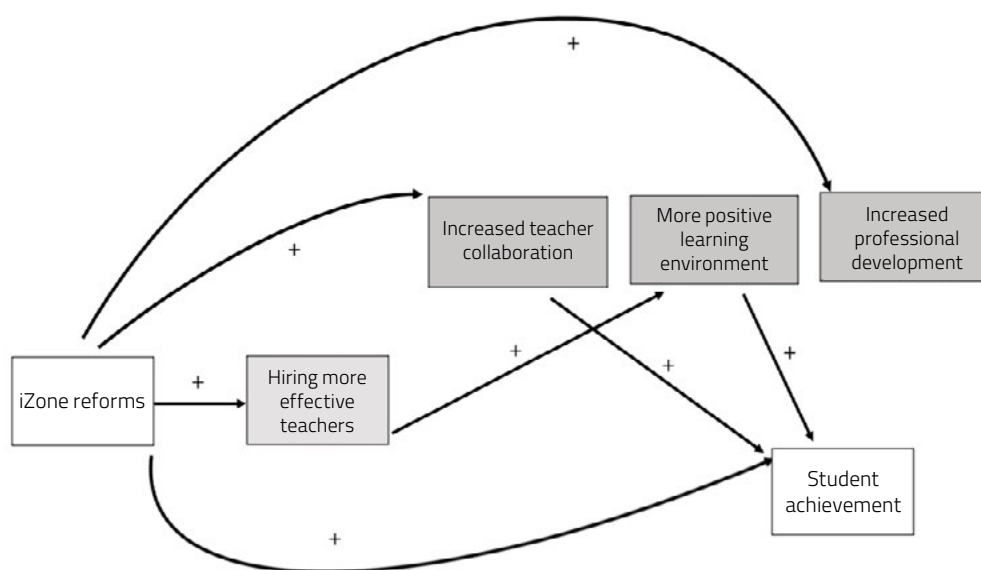
6 Grissom, J A, and Bartanen, B (2019). Strategic retention: Principal effectiveness and teacher turnover in multiple-measure teacher evaluation systems. *American Educational Research Journal*, 56(2), 514-555

7 Sun, M, Penner, E K, and Loeb, S (2017). [Resource-and approach-driven multidimensional change: Three-year effects of school improvement grants](#). *American Educational Research Journal*, 54(4), 607-643

8 Henry, G T, Pham, L D, Kho, A, and Zimmer, R (2020). Peeking into the black box of school turnaround: A formal test of mediators and suppressors. *Educational Evaluation and Policy Analysis*, 42(2), 232-256

outcomes.⁹ The turnaround approach here was based on the Innovation Zone model (Iyengar et al., 2017), which involved replacing principals, recruitment incentives for effective teachers, and lengthening the school day.¹⁰ They find that this initiative had a positive effect via two routes (see figure 2). First, hiring more effective teachers improved teaching and learning. Second, the reforms improved collaboration between teachers, which in turn improved learning. Teacher collaboration was measured via the teacher survey using items like 'The time I spend collaborating with my colleagues is productive', 'Teachers at my school share a common vision of what effective teaching looks like', 'There are many teachers at my school who set an example for me of what highly effective teaching looks like in practice'. This suggests that trust leaders should pay careful attention to creating opportunities for collaboration among teaching staff.

Schoolwide practices that partly explain the effect of iZone reforms on student achievement



Note that the intervention is iZone reforms and the outcome of interest is student achievement (white boxes). This model tests four mechanisms (grey boxes): (1) the recruitment of effective teachers, (2) increased opportunities for teacher collaboration, (3) a more positive learning environment, and (4) increased opportunities for teacher professional development. Statistically significant effects and relationships are depicted with arrows.

Figure 2: How did a turnaround initiative in Shelby County improve outcomes? (Pham, 2023)

Summary and discussion

Successful school turnaround is possible. However, it usually takes around three years for the benefits to materialise and even then success is not certain. Trust leaders should adopt a focused approach and prioritise clear communication.

Extended learning time is a common component of effective turnaround efforts. This is consistent with independent causal evidence that long school days benefit learning (Aguero et al., 2021; Figlio et al., 2018). However, this would very likely require additional resources to implement across trusts.

Replacing less effective with more effective teachers is a common component of effective turnaround. However, staffing needs to be stabilised quickly thereafter for

9 Pham, L D (2023). [Why do we find these effects? An examination of mediating pathways explaining the effects of school turnaround.](#) *Journal of Research on Educational Effectiveness*, 16(1), 82-105

10 Iyengar, N, Lewis-LaMonica, K, and Perigo, M (2017). *School District Innovation Zones: A new wave of district-led efforts to improve economic mobility.* Bridgespan Group

benefits to emerge. In the US, effective teachers have been identified using teacher value added data, which is usually not available in the UK. There is also a well-documented shortage of teachers in England, which constrains the potential for recruiting new teachers. Employment laws also differ between the two countries. All of these considerations make it difficult to transfer this practice to the English context.

Replacing less effective with more effective teachers may also benefit the teachers that remain in the school by creating more opportunities for effective collaboration and learning from colleagues (Pham, 2023). This is consistent with independent causal evidence on the benefits of learning from effective colleagues (Jackson and Bruegmann, 2009).¹¹ Trust leaders should prioritise creating opportunities for teachers to collaborate around improved teaching.



¹¹ Jackson, C K, and Bruegmann, E (2009). [Teaching students and teaching each other: The importance of peer learning for teachers](#). *American Economic Journal: Applied Economics*, 1(4), 85-108

Learning from 30 years of charter school reforms

Charter schools were first established in 1991 and are now present in 44 states in the US (Cohodes and Parham, 2021; LiBetti et al., 2019).¹² They are publicly funded and regulated but privately run. Some charter schools are ‘takeovers’ that have replaced an existing school, while others are ‘start ups’. In this way, charters are similar to academies and free schools in England. Either way, their license to provide state-funded education (or ‘charter’) usually has to be re-authorized every five years. Many charter schools belong to Charter Management Organisations (CMO). CMOs run multiple charters and are responsible for hiring school leaders, deciding the curriculum, determining school policies, and providing ‘back office’ functions. However, around three quarters of charters do not belong to a CMO and are independently managed. Research on charter schools is therefore relevant to trust leaders in England in that charters and CMOs are similar to academies and multi-academy trusts.

There is now a rich social scientific literature on charter schools. Many charters use admissions lotteries, which allow researchers to estimate the causal effect of attending oversubscribed charters, relative to other nearby schools. Cheng et al. (2017) summarise 18 estimates of the causal effect of attending charter schools.¹³ The results of all studies looking at the impact on pupils’ maths test scores are summarised in figure 3 below. Each row represents an impact estimate and the horizontal axis shows the effect sizes. The average impact (represented by the white diamond) is equivalent to approximately three months additional progress. The effects on English are equivalent to approximately one month of additional progress.

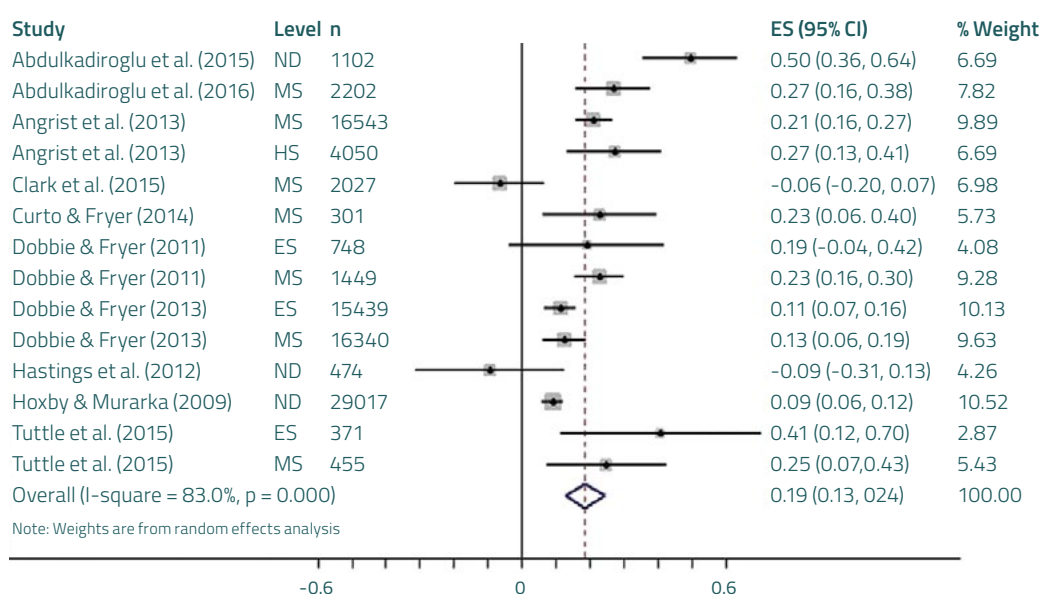


Figure 3: The effect of attending a charter school on pupil achievement (Cheng et al., 2017)

What is perhaps more interesting from the perspective of school trust leaders in England is how the effects of charters differ depending on their approach to schooling. In particular, the impacts are 20-50% higher in charter schools that employ a ‘no excuses’ approach, relative to other charter schools (Cheng et

¹² Cohodes, S R, and Parham, K S (2021). [Charter Schools’ Effectiveness, Mechanisms, and Competitive Influence](#). *Oxford Research Encyclopedia of Economics and Finance*; LiBetti, A, Burgoyne-Allen, P, Lewis, B, Schmitz, K (2019). [The State of the Charter Sector: What you need to know about the charter sector today](#)

¹³ Cheng, A, Hitt, C, Kisida, B, and Mills, J N (2017). “No excuses” charter schools: A meta-analysis of the experimental evidence on student achievement. *Journal of School Choice*, 11(2), 209-238

al., 2017). The authors define a no excuses approach as having conspicuously high expectations for all children, instilling in pupils the goal of going to college (university), consistently enforcing strict behaviour codes, as well as employing extended instructional time and targeted tutoring. In line with this, Angrist et al. (2013) use detailed survey data for a separate sample of charter schools to show that more effective charters tend to focus on student discipline and use 'cold calling' approaches to focus pupils' attention.¹⁴ Importantly, this aligns with evidence from separate experimental research showing that a similar set of practices improve achievement (Fryer, 2014).¹⁵ Taken together, this is compelling evidence that a strong focus on discipline and instruction can increase pupil achievement in maths and English.

Three studies have investigated whether CMOs that use 'data driven instruction', in which pupils are regularly tested and then the data is used to support decision-making about future instruction, get better outcomes for pupil outcomes. All three have found no benefits associated with data driven instruction (Furgeson et al. 2012; Knechtel et al., 2015; Tuttle et al., 2015).¹⁶

Given that 'no excuses' charters appear to be highly effective, Cohodes et al. (2021) ask the question: can you 'scale up' no excuses charter schools without diluting the impact?¹⁷ They study a large expansion of no excuses charter schools in Boston, which doubled the number of such schools in the city over five years. They find that the new charter schools remained much more effective (in terms of English and maths test scores) than other schools in the city. These findings have been replicated in a separate study of the well-known KIPP CMO, which found that their no excuses charters remained more effective than alternatives as they steadily expanded the number of schools they run (Knechtel et al., 2015; Tuttle et al., 2015). Cohodes et al. (2021) shed some light on why no excuses charters are more effective by showing that teachers in these schools had much higher, and also much less variable, value added (see figure 4). This suggests, in line with the theory behind no excuses, that such schools allow teacher to focus on teaching with fewer interruptions.

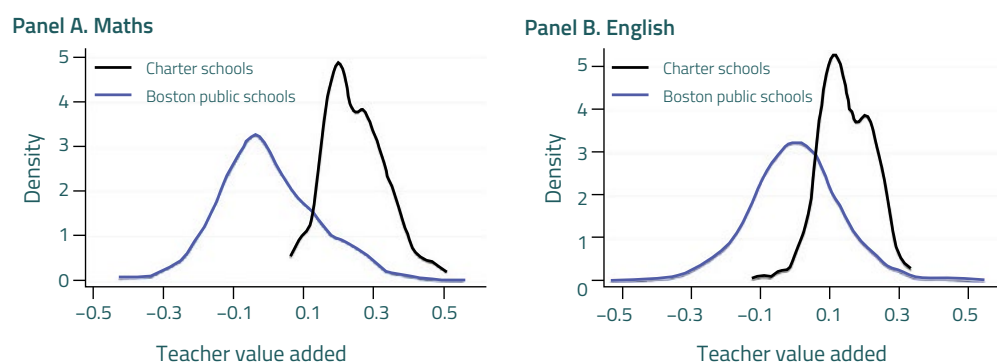


Figure 4: Teacher effectiveness in 'no excuses' charters versus public schools (Cohodes et al., 2021)

¹⁴ Angrist, J D, Pathak, P A, and Walters, C R (2013). [Explaining charter school effectiveness](#). *American Economic Journal: Applied Economics*, 5(4), 1-27

¹⁵ Fryer Jr, R G (2014). [Injecting charter school best practices into traditional public schools: Evidence from field experiments](#). *The Quarterly Journal of Economics*, 129(3), 1355-1407

¹⁶ Furgeson, J, Gill, B, Haimson, J, Killewald, A, et al. (2012). [Charter-school management organizations: Diverse strategies and diverse student impacts](#). Mathematica Policy Research, Inc; Knechtel, V, Anderson, M A, Burnett, A, Coen, T, et al. (2015). [Understanding the Effect of KIPP as It Scales: Volume II, Leadership Practices at KIPP](#). Mathematica Policy Research, Inc; Tuttle, C C, Gleason, P, Knechtel, V, Nichols-Barrer, I, et al. (2015). [Understanding the Effect of KIPP as It Scales: Volume I, Impacts on Achievement and Other Outcomes](#). Mathematica Policy Research, Inc

¹⁷ Cohodes, S R, Setren, E M, and Walters, C R (2021). [Can successful schools replicate? Scaling up Boston's charter school sector](#). *American Economic Journal: Economic Policy*, 13(1), 138-67

Summary and discussion

Charter schools have been effective relative to nearby schools, particularly where they have used 'no excuses' practices. Moreover, no excuses charters have been able to successfully replicate/scale this successful model. However, it is not clear how excluded pupils' results have been accounted for in some of the research underpinning these findings.

Charter schools and CMOs that place a strong emphasis on consistently enforcing standards of behaviour appear to raise the quality and consistency of teaching, presumably by reducing disruptions to learning. By contrast, adopting data-driven instruction across CMOs does not appear to improve pupil outcomes.

However, charter school teachers tend to be younger, have lower job satisfaction and are more likely to leave teaching, so trust leaders needs to carefully consider the sustainability of no excuses models (see Cohodes and Parham, 2021; Roch and Sai, 2017).¹⁸ This is consistent with the findings from the previous section about the need to retain good teachers in order to sustain school improvement.



¹⁸ Roch, C H, and Sai, N (2017). Charter school teacher job satisfaction. *Educational Policy*, 31(7), 951-991

Learning from 20 years of school district reforms

A US school district is a local government unit comprised of a localised group of jointly governed schools, usually overseen by an elected school board. They set budgets, maintain the schools' estates and determine the school calendar. In this sense, they are similar to local authorities in England. However, their responsibilities are in some ways more similar to a school trust's, in that they often make decisions about teacher pay, curriculum materials, and professional development. This makes evidence from studies of school district reforms relevant to trusts in England. For more on school districts in the US, see Blazar and Schueler (2022).¹⁹

Poorly performing school districts are sometimes exposed to multi-component turnaround initiatives, typically including extended instructional time. Chin et al. (2019) and Schueler et al. (2017) evaluate two such reforms in Newark and Massachusetts, respectively.²⁰ Both papers find positive effects but, consistent with the evidence in section one, find that the benefits take multiple years to emerge.

Three papers have investigated the effects of school districts' pay policies. Figlio (2002) finds that districts that pay more are more likely to hire teachers qualified to teach their subject specialism,²¹ and districts that pay more for more experienced teachers do indeed attract more experienced teachers (Hendricks, 2015).²² Biasi (2018) studies the gradual move from centralised bargaining over teacher pay to school district autonomy over teacher pay in Wisconsin.²³ They find that more effective teachers ended up being paid more, which then had a small positive knock-on effect on pupil achievement equivalent to approximately half a month's additional progress.

Another three papers have looked at district-wide data driven instruction initiatives, which combine frequent systematic student testing with advice/support on how to help low performing students (Carlson et al., 2011; May and Robinson, 2007; Slavin et al., 2013).²⁴ The results are inconsistent and, even in the case where results look promising (Carlson et al., 2007), it's not clear whether the benefits come from the testing itself, accountability supported by the testing, or interventions introduced on the back of the test results.

Blazar et al. (2020) looks at variation in the official textbooks (effectively

19 Blazar, D, and Schueler, B (2022). [Why Do School Districts Matter? An Interdisciplinary Framework and Empirical Review](#)

20 Chin, M, Kane, T J, Kozakowski, W, Schueler, B E, and Staiger, D O (2019). [School district reform in Newark: Within-and-between-school changes in achievement growth](#). *ILR Review*, 72(2), 323-354; Schueler, B E, Goodman, J S, and Deming, D J (2017). [Can states take over and turn around school districts? Educational Evaluation and Policy Analysis](#), 39(2), 311-332

21 Figlio, D (2002). Can public schools buy better-qualified teachers? *ILR Review*, 55(4), 686-699.

22 Hendricks, M D (2015). Towards an optimal teacher salary schedule: Designing base salary to attract and retain effective teachers. *Economics of Education Review*, 47, 143-167

23 Biasi, B (2018). [The labor market for teachers under different pay schemes](#). National Bureau of Economic Research

24 Carlson, D, Borman, G D, and Robinson, M (2011). [A multistate district-level cluster randomized trial of the impact of data-driven reform on reading and mathematics achievement](#). *Educational Evaluation and Policy Analysis*, 33(3), 378-398; May, H, and Robinson, M A (2007). [A randomized evaluation of Ohio's personalized assessment reporting system](#). Consortium for Policy Research in Education; Slavin, R E, Cheung, A, Holmes, G, Madden, N A, and Chamberlain, A (2013). [Effects of a data driven district reform model on state assessment outcomes](#). *American Educational Research Journal*, 50(2), 371-396

curricula) adopted by school districts, and how this changes over time.²⁵ They find little relationship between states adopting new textbooks and student achievement, suggesting that these sorts of decisions are unlikely to bring about major benefits in terms of pupil learning.

Summary and discussion

In line with the (closely related) literature in section one, research on school districts shows that at-scale school improvement can be done, but that it requires years for the benefits to emerge. Trust leaders must allow sufficient time for the benefits of school improvement to emerge.

Studies of school districts in the US suggest that pay policy is an important lever for school improvement, through attracting better qualified teachers. However, this is likely to be challenging for trust leaders in England, not least because of budget constraints. Evidence on the benefits of district-wide data-driven instruction and textbook/curriculum reform initiatives in the US is much weaker.



25 Blazar, D, Heller, B, Kane, T, Polikoff, M, et al. (2020). [Curriculum reform in the Common Core era](#). *Journal of Policy Analysis and Management*, 39(4), 966-1019





School Improvement Hub

CST and ImpactEd Group are working together to collate examples of school improvement practices used by trusts, freely shared to help schools across the country. If your trust has work that aligns with our conceptual framework for trust-led improvement, please visit the website for details of how to work with us to develop and share a case study, and help all our schools to keep getting better.

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