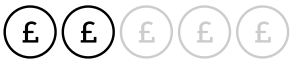
Performance pay

Low impact for low cost based on very limited evidence

Performance pay schemes aim to create a direct link between teacher pay and the performance of their class

Implementation cost



Evidence strength

Impact (months)

months

Subject breakdown

maths: 16
reading: 13
toolkit: 27

School phase breakdown

primary: 20
secondary: 7
toolkit: 27

Technical Appendix

The criteria used to judge the inclusion of studies in the Toolkit are:

- The population sampled involved early years and school age learners from 3-18 learning in their first language.
- The intervention or approach being tested was educational in nature, including named or clearly defined programmes and recognisable approaches classifiable according to the Toolkit strand definitions (e.g. peer tutoring or small group teaching). The intervention or approach is undertaken in a normal educational setting or environment for the learners involved, such as a nursery or school or a typical setting (e.g. an outdoor field centre or museum).
- A valid comparison was made between those receiving the educational intervention or approach and those not receiving it.
- Outcomes include the assessment of educational or cognitive achievement which reports quantitative results from testing of attainment or learning outcomes, such as by standardised tests or other appropriate curriculum assessments or school examinations or appropriate cognitive measures.
- The study design provided a quantitative estimate of the impact of the intervention or approach on the educational attainment of the sample, calculated or estimated in the form of an effect size (standardised mean difference) based on a counterfactual comparison.

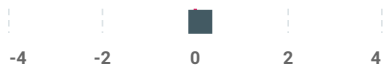
Standardised mean differences and confidence intervals for the most appropriate estimates of the impact of the intervention or approach for the Toolkit were extracted from each included study, along with other study variables. These effect sizes were further synthesised into a single pooled effect using a random effects meta-analysis adopting a restricted maximum likelihood (REML) estimation methods.For the full details of the methodology see the Protocol and Analysis Plan (https://educationendowmentfoundation.org.uk/public/files/Toolkit/EEF_Evidence_Database_Protocol_and_Analysis_Plan_June2019.pdf) .

References (27)

The forest plot below is a graphical representation of the results of all included studies in this Toolkit strand. It shows the effect size and confidence interval of each study, and whether the particular intervention in that study was more or less effective than standard practice or other alternative interventions that the study looked at.

Studies that show an effect size result on the right-hand side of the red vertical red indicate that the particular intervention studied was more effective than standard practice. Studies that show an effect size on the left-hand size of the red vertical indicate that the particular intervention studied was less effective than standard practice.

Author	Title	Effect Size	Effect Size (Graph)
Atkinson (2009)	Evaluating the impact of performance-related pay for teachers in England *(Labour Economics)*	**Effect Size**: 0.659 **LCI**: 0.288 **UCI**: 1.03 **Weight**: 1.621 **Standard error**: 0.189	
Schacter (2004)	The Teacher Advancement Program Report Two: Year Three results from Arizona and Year One results from South Carolina TAP schools *(NA)*	**Effect Size**: 0.38 **LCI**: -2.031 **UCI**: 2.791 **Weight**: 0.059 **Standard error**: 1.23	
Barnett (2014)	Comprehensive Educator Effectiveness Models That Work: Impact of the TAP System on Student Achievement in Louisiana *(National Institute for Excellence in Teaching)*	**Effect Size**: 0.355 **LCI**: 0.229 **UCI**: 0.481 **Weight**: 3.771 **Standard error**: 0.064	
Muralidharan (2011)	Teacher performance pay: Experimental evidence from India *(Journal of Political Economy)*	**Effect Size**: 0.302 **LCI**: 0.288 **UCI**: 0.316 **Weight**: 4.541 **Standard error**: 0.007	
Lavy (2009)	Performance pay and teachers' effort, productivity, and grading ethics *(American Economic Review)*	**Effect Size**: 0.244 **LCI**: 0.091 **UCI**: 0.397 **Weight**: 3.484 **Standard error**: 0.078	
Sojourner (2014)	Teacher pay reform and productivity: Panel data evidence from adoptions of Q-Comp in Minnesota *(Journal of Human Resources)*	**Effect Size**: 0.23 **LCI**: 0.223 **UCI**: 0.238 **Weight**: 4.549 **Standard error**: 0.004	

Author	Title	Effect Size	Effect Size (Graph)
Fryer (2012)	Enhancing the efficacy of teacher incentives through loss aversion: A field experiment. *(NBER Working Paper No. 16850)*	**Effect Size**: 0.179 **LCI**: -0.046 **UCI**: 0.404 **Weight**: 2.731 **Standard error**: 0.115	
Springer (2012)	Final report: Experimental Evidence from the Project on Incentives in Teaching (POINT) *(NA)*	**Effect Size**: 0.174 **LCI**: 0.031 **UCI**: 0.317 **Weight**: 3.588 **Standard error**: 0.073	
Contreras (2012)	Tournament incentives for teachers: Evidence from a scaled-up intervention in Chile *(Economic Development and Cultural Change)*	**Effect Size**: 0.17 **LCI**: 0.0328 **UCI**: 0.3072 **Weight**: 0.769 **Standard error**: 0.312	
Hudson (2010)	The effects of performance-based teacher pay on student achievement *(NA)*	**Effect Size**: 0.15 **LCI**: 0.032 **UCI**: 0.268 **Weight**: 3.853 **Standard error**: 0.06	
Balch (2015)	Performance pay, test scores, and student learning objectives *(Economics of Education Review)*	**Effect Size**: 0.11 **LCI**: 0.039 **UCI**: 0.181 **Weight**: 4.273 **Standard error**: 0.036	
Schacter (2005)	TAPping into High Quality Teachers: Preliminary results from the Teacher Advancement Program comprehensive school reform *(School Effectiveness and School Improvement)*	**Effect Size**: 0.108 **LCI**: 0.031 **UCI**: 0.184 **Weight**: 4.228 **Standard error**: 0.039	
Glewwe (2010)	Teacher incentives *(American Economic Journal: Applied Economics)*	**Effect Size**: 0.094 **LCI**: -0.09 **UCI**: 0.278 **Weight**: 3.149 **Standard error**: 0.094	
Shifrer (2017)	Do Teacher Financial Awards Improve Teacher Retention and Student Achievement in an Urban Disadvantaged School District? *(American Educational Research Journal)*	**Effect Size**: 0.06 **LCI**: -0.097 **UCI**: 0.217 **Weight**: 3.442 **Standard error**: 0.08	
Goldhaber (2012)	Strategic pay reform: A student outcomes-based evaluation of Denver's ProComp teacher pay initiative *(Economics of Education Review)*	**Effect Size**: 0.054 **LCI**: 0.037 **UCI**: 0.071 **Weight**: 4.535 **Standard error**: 0.009	

Author	Title	Effect Size	Effect Size (Graph)
Glazerman (2013)	Transfer Incentives for High-Performing Teachers: Final Results from a Multisite Randomized Experiment *(National Center for Education Evaluation and Regional Assistance)*	**Effect Size**: 0.043 **LCI**: 0 **UCI**: 0.086 **Weight**: 4.446 **Standard error**: 0.022	
Wellington (2016)	Evaluation of the Teacher Incentive Fund: Implementation and Impacts of Pay-for-Performance After 3 Years, Executive Summary *(National Center for Education Evaluation and Regional Assistance)*	**Effect Size**: 0.022 **LCI**: 0.003 **UCI**: 0.041 **Weight**: 4.532 **Standard error**: 0.01	
Springer (2010)	District Awards for Teacher Excellence (D . A . T . E .) Program : Final Evaluation report *(Education)*	**Effect Size**: 0.01 **LCI**: -0.088 **UCI**: 0.108 **Weight**: 4.043 **Standard error**: 0.05	
Barrera-Osorio (2017)	Teacher performance pay: Experimental evidence from Pakistan *(Journal of Public Economics)*	**Effect Size**: 0.008 **LCI**: -0.109 **UCI**: 0.126 **Weight**: 3.853 **Standard error**: 0.06	
Behrman (2015)	Aligning learning incentives of students and teachers: Results from a social experiment in Mexican high schools *(Journal of Political Economy)*	**Effect Size**: 0.004 **LCI**: -0.035 **UCI**: 0.043 **Weight**: 4.462 **Standard error**: 0.02	
Glazerman (2010)	An Evaluation of the Teacher Advancement Program (TAP) in Chicago: Year Two Impact Report *(NA)*	**Effect Size**: 0 **LCI**: -0.088 **UCI**: 0.088 **Weight**: 4.13 **Standard error**: 0.045	
Springer (2012)	Team pay for performance: Experimental evidence from the Round Rock Pilot Project on team incentives *(Education Evaluation and Policy Analysis)*	**Effect Size**: -0.006 **LCI**: -0.047 **UCI**: 0.035 **Weight**: 4.453 **Standard error**: 0.021	
Fryer (2013)	Teacher Incentives and Student Achievement: Evidence from New York City Public Schools *(Journal of Labor Economics)*	**Effect Size**: -0.015 **LCI**: -0.034 **UCI**: 0.004 **Weight**: 4.531 **Standard error**: 0.01	
Marsh (2011)	A Big Apple for Educators: New York City's Experiment with Schoolwide Performance Bonuses: Final Evaluation *(NA)*	**Effect Size**: -0.03 **LCI**: -0.089 **UCI**: 0.029 **Weight**: 4.355 **Standard error**: 0.03	

Author	Title	Effect Size	Effect Size (Graph)
Briggs (2014)	Denver ProComp Evaluation Report: 2010-2012 *(colorado.edu)*	**Effect Size**: -0.04 **LCI**: -0.06 **UCI**: -0.02 **Weight**: 4.529 **Standard error**: 0.01	
Jensen (2012)	Merit pay in Arkansas: An evaluation of the Cobra Pride Incentive Program in the Fountain Lake School District *(ProQuest Dissertations and Theses)*	**Effect Size**: -0.09 **LCI**: -0.133 **UCI**: -0.047 **Weight**: 4.444 **Standard error**: -0.022	
Eberts (2002)	Teacher performance incentives and student outcomes *(Journal of Human Resources)*	**Effect Size**: -0.108 **LCI**: -0.247 **UCI**: 0.031 **Weight**: 3.632 **Standard error**: 0.071