Extending school time

Moderate impact for moderate cost based on limited evidence

Extending school time involves increasing learning time in schools during the school day or by changing the school calendar.

Implementation cost

Evidence strength

Impact (months)

+3 months

Subject breakdown

maths: 22
reading: 52
toolkit: 74

School phase breakdown

primary: 51
secondary: 19
toolkit: 74

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 (74)

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)
Meier (2001)	Book buddies in the Bronx: Testing a model for America Reads *(Journal of Education for Students Placed at Risk)*	**Effect Size**: 1.332 **LCI**: 0.748 **UCI**: 1.916 **Weight**: 0.922 **Standard error**: 0.298	
Neufeld (1995)	Rural after-school child care: A demonstration project in a remote mining community *(Rural Special Education Quarterly)*	**Effect Size**: 1.08 **LCI**: 0.492 **UCI**: 1.668 **Weight**: 0.916 **Standard error**: 0.3	
Johnson (1984)	The Effects Of Year-Round School Programs On Pupil Achievement In Selected Schools In The Los Angeles Unified School District *(NA)*	**Effect Size**: 1.05 **LCI**: 0.913 **UCI**: 1.187 **Weight**: 1.674 **Standard error**: 0.07	
Consolie (1999)	Achievement, attendance, and discipline in a year round elementary school *(NA)*	**Effect Size**: 1.027 **LCI**: 0.684 **UCI**: 1.37 **Weight**: 1.34 **Standard error**: 0.175	
Lee (2006)	Full-day versus half-day kindergarten: In which program do children learn more? *(American Journal of Education)*	**Effect Size**: 0.93 **LCI**: 0.832 **UCI**: 1.028 **Weight**: 1.714 **Standard error**: 0.05	
Bergin (1992)	An afterschool intervention program for educationally disadvantaged young children *(The Urban Review)*	**Effect Size**: 0.909 **LCI**: -0.358 **UCI**: 2.176 **Weight**: 0.334 **Standard error**: 0.646	

Author	Title	Effect Size	Effect Size (Graph)
Morris (1990)	Helping low readers in grades 2 and 3: An after-school volunteer tutoring program *(The Elementary School Journal)*	**Effect Size**: 0.907 **LCI**: 0.374 **UCI**: 1.44 **Weight**: 1.001 **Standard error**: 0.272	
Matty (1978)	The 45-15 Year-Round School: An Evaluation Of First-Year Algebra Achievement Of Selected Ninth-Grade Students *(NA)*	**Effect Size**: 0.87 **LCI**: 0.537 **UCI**: 1.203 **Weight**: 1.357 **Standard error**: 0.17	
Leslie (1998)	The effects of an after-school tutorial program on the reading and mathematics achievement, failure rate, and discipline referral rate of students in a rural middle school *(NA)*	**Effect Size**: 0.832 **LCI**: 0.31 **UCI**: 1.355 **Weight**: 1.019 **Standard error**: 0.267	
Lightner (2010)	Expelled middle school students: A study of the effects of a short-term, after-school reading intervention program *(NA)*	**Effect Size**: 0.792 **LCI**: 0.22 **UCI**: 1.364 **Weight**: 0.94 **Standard error**: 0.292	
Reisner (2004)	Building Quality, Scale, and Effectiveness in After-School Programs: Summary Report of the TASC Evaluation *(Policy Studies Associates, Inc.)*	**Effect Size**: 0.79 **LCI**: 0.594 **UCI**: 0.986 **Weight**: 1.595 **Standard error**: 0.1	
Berninger (2006)	Paths to reading comprehension in at-risk second-grade readers *(Journal of Learning Disabilities)*	**Effect Size**: 0.58 **LCI**: 0.168 **UCI**: 0.992 **Weight**: 1.212 **Standard error**: 0.21	
Riley (1997)	Student achievement and attitudes in mathematics: An evaluation of the Twenty-first Century Mathematics Center for Urban High Schools *(NA)*	**Effect Size**: 0.535 **LCI**: 0.215 **UCI**: 0.854 **Weight**: 1.383 **Standard error**: 0.163	
Mooney (1986)	The Effects of Peer Tutoring on Student Achievement *(NA)*	**Effect Size**: 0.531 **LCI**: -0.199 **UCI**: 1.261 **Weight**: 0.727 **Standard error**: 0.372	
Elsberry (1992)	An evaluation of the implementation of year-round education *(NA)*	**Effect Size**: 0.527 **LCI**: 0.251 **UCI**: 0.803 **Weight**: 1.462 **Standard error**: 0.141	

Author	Title	Effect Size	Effect Size (Graph)
Hasselmeier (1997)	Traditional vs. year-round education on academic achievement *(NA)*	**Effect Size**: 0.502 **LCI**: 0.384 **UCI**: 0.62 **Weight**: 1.695 **Standard error**: 0.06	
Schinke (1988)	Preventing Substance Abuse Among American-Indian Adolescents: A Bicultural Competence Skills Approach *(Journal of Counseling Psychology)*	**Effect Size**: 0.49 **LCI**: 0.157 **UCI**: 0.823 **Weight**: 1.357 **Standard error**: 0.17	
Dunn (1996)	The effect of calendar configuration on elementary students' achievement gains *(NA)*	**Effect Size**: 0.45 **LCI**: 0.117 **UCI**: 0.784 **Weight**: 1.357 **Standard error**: 0.17	
Kuner-Roth (1985)	A Comparison Of Academic Achievement Of Students In A Year Round School District With A Conventional School Year District (Forty-Five-Fifteen Plan, Attendance, Illinois) *(NA)*	**Effect Size**: 0.45 **LCI**: 0.223 **UCI**: 0.676 **Weight**: 1.547 **Standard error**: 0.116	
Molina (2008)	Feasibility and preliminary efficacy of an after-school program for middle schoolers with ADHD: A randomized trial in a large public middle school *(Journal of Attention Disorders)*	**Effect Size**: 0.448 **LCI**: -0.447 **UCI**: 1.342 **Weight**: 0.562 **Standard error**: 0.456	
St Pierre (2001)	Boys & Girls Clubs and school collaborations: A longitudinal study of a multicomponent substance abuse prevention program for high-risk elementary school children *(Journal of Community Psychology)*	**Effect Size**: 0.445 **LCI**: 0.037 **UCI**: 0.852 **Weight**: 1.219 **Standard error**: 0.208	
Shields (1996)	Year-Round Education: Is It Worth the Hassle? *(NA)*	**Effect Size**: 0.42 **LCI**: 0.048 **UCI**: 0.791 **Weight**: 1.286 **Standard error**: 0.189	
Gandara (1994)	Year-round schooling as an avenue to major structural reform *(Educational Evaluation and Policy Analysis)*	**Effect Size**: 0.386 **LCI**: -0.074 **UCI**: 0.847 **Weight**: 1.124 **Standard error**: 0.235	
Langberg (2007)	A pilot evaluation of small group challenging horizons program (CHP) a randomized trial *(Journal of Applied School Psychology)*	**Effect Size**: 0.342 **LCI**: -0.233 **UCI**: 0.917 **Weight**: 0.936 **Standard error**: 0.293	

Author	Title	Effect Size	Effect Size (Graph)
Costa (1987)	Comparative Outcomes Of The Clark County School District Year-Round And Nine-Month Schools (Nevada) *(NA)*	**Effect Size**: 0.338 **LCI**: -0.629 **UCI**: 1.306 **Weight**: 0.504 **Standard error**: 0.494	
Berninger (2006)	Tier 1 and Tier 2 early intervention for handwriting and composing *(Journal of School Psychology)*	**Effect Size**: 0.317 **LCI**: -0.104 **UCI**: 0.738 **Weight**: 1.195 **Standard error**: 0.215	
Kneese (1996)	Impact of the year-round calendar on student achievement in Alameda unified school district *(NA)*	**Effect Size**: 0.31 **LCI**: 0.152 **UCI**: 0.469 **Weight**: 1.648 **Standard error**: 0.081	
Baker (1996)	Evaluation of the impact of two after-school programs *(Journal of Park and Recreation Administration)*	**Effect Size**: 0.301 **LCI**: 0.026 **UCI**: 0.575 **Weight**: 1.465 **Standard error**: 0.14	
Schinke (2000)	Enhancing the educational achievement of at-risk youth *(Prevention Science)*	**Effect Size**: 0.298 **LCI**: -0.002 **UCI**: 0.599 **Weight**: 1.417 **Standard error**: 0.153	
Vadasy (1997)	The effectiveness of one-to-one tutoring by community tutors for at-risk beginning readers *(Learning Disability Quarterly)*	**Effect Size**: 0.292 **LCI**: -0.332 **UCI**: 0.915 **Weight**: 0.864 **Standard error**: 0.318	
Langberg (2008)	Efficacy of an organization skills intervention to improve the academic functioning of students with attention-deficit/hyperactivity disorder *(School Psychology Quarterly)*	**Effect Size**: 0.27 **LCI**: -0.408 **UCI**: 0.948 **Weight**: 0.791 **Standard error**: 0.346	
Barron (1993)	The effects of year-round education on achievement, attendance and teacher attendance in bilingual schools *(NA)*	**Effect Size**: 0.236 **LCI**: 0.096 **UCI**: 0.375 **Weight**: 1.672 **Standard error**: 0.071	
Bechtel (1991)	A study of academic growth in third-grade students and its relationship to year-round education *(NA)*	**Effect Size**: 0.232 **LCI**: 0 **UCI**: 0.463 **Weight**: 1.539 **Standard error**: 0.118	

Author	Title	Effect Size	Effect Size (Graph)
Tucker (2002)	Using culturally sensitive theories and research to meet the academic needs of low-income African American children *(The American psychologist)*	**Effect Size**: 0.223 **LCI**: -0.267 **UCI**: 0.713 **Weight**: 1.073 **Standard error**: 0.25	
McKinney (1995)	The effects of an after school tutorial and enrichment program on the academic achievement and self-concept of below grade level first and second-grade students *(NA)*	**Effect Size**: 0.216 **LCI**: -0.379 **UCI**: 0.811 **Weight**: 0.905 **Standard error**: 0.304	
Zimmer (2010)	After-school tutoring in the context of no child left behind: Effectiveness of two programs in the Pittsburgh public schools *(Economics of Education Review)*	**Effect Size**: 0.21 **LCI**: -0.006 **UCI**: 0.426 **Weight**: 1.564 **Standard error**: 0.11	
Cason (1995)	The impact of year-round school on student achievement, student/teacher attendance, and discipline *(NA)*	**Effect Size**: 0.203 **LCI**: 0.027 **UCI**: 0.379 **Weight**: 1.623 **Standard error**: 0.09	
DeCicca (2007)	Does full-day kindergarten matter? Evidence from the first two years of schooling *(Economics of Education Review)*	**Effect Size**: 0.195 **LCI**: 0.093 **UCI**: 0.297 **Weight**: 1.71 **Standard error**: 0.052	
Legro (1990)	An evaluation of an after-school partnership program: The effects on young children's performance *(NA)*	**Effect Size**: 0.188 **LCI**: -0.26 **UCI**: 0.635 **Weight**: 1.148 **Standard error**: 0.228	
Chase (2000)	Hmong American partnership: 2HTN final report *(NA)*	**Effect Size**: 0.16 **LCI**: -0.428 **UCI**: 0.748 **Weight**: 0.916 **Standard error**: 0.3	
Espinosa (2000)	A comparison of Iowa Test of Basic Skills scores of students in year -round schools versus non -year -round schools *(NA)*	**Effect Size**: 0.152 **LCI**: -0.071 **UCI**: 0.375 **Weight**: 1.553 **Standard error**: 0.114	
Vandell (2005)	The study of promising after-school programs: Examination of intermediate outcomes in year 2 *(Retrieved June)*	**Effect Size**: 0.143 **LCI**: -0.033 **UCI**: 0.319 **Weight**: 1.623 **Standard error**: 0.09	

Author	Title	Effect Size	Effect Size (Graph)
Hausner (2000)	The Impact of Kindergarten Intervention Project Accelerated Literacy on Emerging Literacy Concepts and Second Grade Reading Comprehension *(NA)*	**Effect Size**: 0.139 **LCI**: -0.095 **UCI**: 0.374 **Weight**: 1.534 **Standard error**: 0.12	
Walker (2004)	After-School Pursuits: An Examination of Outcomes in the San Francisco Beacon Initiative *(Public/Private Ventures)*	**Effect Size**: 0.13 **LCI**: 0.089 **UCI**: 0.171 **Weight**: 1.75 **Standard error**: 0.021	
Hirsch (2011)	After-school programs for high school students: An evaluation of After School Matters *(Evanston, IL: Northwestern University)*	**Effect Size**: 0.101 **LCI**: -0.123 **UCI**: 0.326 **Weight**: 1.55 **Standard error**: 0.115	
Menzies (2016)	Hallé SHINE on Manchester *(NA)*	**Effect Size**: 0.1 **LCI**: 0.002 **UCI**: 0.198 **Weight**: 1.714 **Standard error**: 0.05	
Finch (1997)	The effect of supplementary computer-assisted instruction upon rural seventh-grade students to improve math scores as measured by the Michigan Educational Assessment Program test *(NA)*	**Effect Size**: 0.096 **LCI**: -0.373 **UCI**: 0.565 **Weight**: 1.109 **Standard error**: 0.239	
Menzies (2015)	SHINE in Secondaries: Evaluation report and executive summary *(NA)*	**Effect Size**: 0.09 **LCI**: -0.081 **UCI**: 0.261 **Weight**: 1.632 **Standard error**: 0.087	
Lauver (2002)	Assessing the Benefits of an After-School Program for Urban Youth: An Impact and Process Evaluation *(NA)*	**Effect Size**: 0.087 **LCI**: -0.258 **UCI**: 0.433 **Weight**: 1.334 **Standard error**: 0.176	
Zief (2005)	A mixed -methods study of the impacts and processes of an after -school program for urban elementary youth *(NA)*	**Effect Size**: 0.07 **LCI**: -0.343 **UCI**: 0.483 **Weight**: 1.21 **Standard error**: 0.21	
DeLaro (1994)	An analysis of student achievement in year-round and traditional calendar elementary schools *(NA)*	**Effect Size**: 0.063 **LCI**: 0.048 **UCI**: 0.078 **Weight**: 1.757 **Standard error**: 0.008	

Author	Title	Effect Size	Effect Size (Graph)
Campbell (1994)	Year-Round Schooling for Academically At-Risk Students: Outcomes and Perceptions of Participants in an Elementary Program *(ERS Spectrum)*	**Effect Size**: 0.058 **LCI**: 0.003 **UCI**: 0.114 **Weight**: 1.743 **Standard error**: 0.028	
Grolnick (2007)	Facilitating motivation in young adolescents: Effects of an after-school program *(Journal of applied developmental psychology)*	**Effect Size**: 0.044 **LCI**: -0.369 **UCI**: 0.457 **Weight**: 1.209 **Standard error**: 0.211	
Dynarski (2004)	When Schools Stay Open Late: The National Evaluation of the 21st Century Community Learning Centers Program--New Findings *(NA)*	**Effect Size**: 0.04 **LCI**: 0.02 **UCI**: 0.06 **Weight**: 1.756 **Standard error**: 0.01	
Prenovost (2001)	A first-year evaluation of after -school learning programs in four urban middle schools in the Santa Ana Unified School District *(NA)*	**Effect Size**: 0.038 **LCI**: -0.07 **UCI**: 0.146 **Weight**: 1.705 **Standard error**: 0.055	
Hobbs (2012)	Effects of an afterschool program on elementary and middle school math achievement in Georgia schools *(NA)*	**Effect Size**: 0.035 **LCI**: -0.257 **UCI**: 0.328 **Weight**: 1.432 **Standard error**: 0.149	
Paloczy (1997)	The impact of the elementary school year-round education (YRE) pilot program on student achievement and behavior in the Harlandale Independent School District *(NA)*	**Effect Size**: 0.008 **LCI**: -0.345 **UCI**: 0.361 **Weight**: 1.321 **Standard error**: 0.18	
Chen (1994)	Year-round education: High school student achievement and teacher/administrator attitudes *(NA)*	**Effect Size**: 0.005 **LCI**: -0.195 **UCI**: 0.206 **Weight**: 1.589 **Standard error**: 0.102	
U. S. Department of Education (2003)	When schools stay open late: The national evaluation of the 21st Century Community Learning Centers program,first year findings *(NA)*	**Effect Size**: 0.005 **LCI**: -0.056 **UCI**: 0.066 **Weight**: 1.74 **Standard error**: 0.031	
Heaberlin (2000)	The effects of year -round education on elementary school students *(NA)*	**Effect Size**: 0.001 **LCI**: -0.155 **UCI**: 0.157 **Weight**: 1.651 **Standard error**: 0.08	

Author	Title	Effect Size	Effect Size (Graph)
Gottfredson (2010)	Effects of participation in after-school programs for middle school students: A randomized trial *(Journal of Research on Educational Effectiveness)*	**Effect Size**: 0 **LCI**: -0.192 **UCI**: 0.192 **Weight**: 1.6 **Standard error**: 0.098	
Kneese (2000)	The Impact of Year-Round Education on Student Learning: A Study of Six Elementary Schools *(ERS Spectrum)*	**Effect Size**: 0 **LCI**: -0.121 **UCI**: 0.121 **Weight**: 1.692 **Standard error**: 0.062	
Gentilcore (2002)	The effect of an after -school academic intervention service on a New York State eighth grade English language arts assessment: A case study *(NA)*	**Effect Size**: 0 **LCI**: -0.35 **UCI**: 0.351 **Weight**: 1.324 **Standard error**: 0.179	
Kauh (2011)	AfterZone: Outcomes for youth participating in Providence's citywide after-school system *(Philadelphia, PA: Public/Private Ventures)*	**Effect Size**: -0.01 **LCI**: -0.088 **UCI**: 0.068 **Weight**: 1.729 **Standard error**: 0.04	
Sorensen (1995)	A study comparing 23 modified 45-15 year-round and traditional schools in Jordan School District on Stanford Achievement Test scores for years 1991-1993 *(NA)*	**Effect Size**: -0.018 **LCI**: -0.061 **UCI**: 0.024 **Weight**: 1.749 **Standard error**: 0.022	
Mitchell (1999)	Student Segregation and Achievement Tracking in Year-Round Schools *(NA)*	**Effect Size**: -0.045 **LCI**: -0.082 **UCI**: -0.008 **Weight**: 1.751 **Standard error**: 0.019	
Ritter (1992)	Effects of the Year Round School Calendar on Gifted and Talented Students *(NA)*	**Effect Size**: -0.051 **LCI**: -0.624 **UCI**: 0.522 **Weight**: 0.938 **Standard error**: 0.292	
Powers (1974)	The Virginia Beach Extended School Year Program and Its Effects on Student Achievement and Attitudes--First Year Report *(NA)*	**Effect Size**: -0.052 **LCI**: -0.283 **UCI**: 0.178 **Weight**: 1.54 **Standard error**: 0.118	
Woolley (1996)	The effects of year-round school on the achievement and attendance of elementary school students *(NA)*	**Effect Size**: -0.067 **LCI**: -0.212 **UCI**: 0.078 **Weight**: 1.664 **Standard error**: 0.074	

Author	Title	Effect Size	Effect Size (Graph)
Styles (2014)	Chatterbooks: Evaluation report and executive summary *(NA)*	**Effect Size**: -0.14 **LCI**: -0.311 **UCI**: 0.031 **Weight**: 1.632 **Standard error**: 0.087	
Dorsett (2014)	Mind the Gap: Evaluation report and executive summary *(NA)*	**Effect Size**: -0.141 **LCI**: -0.696 **UCI**: 0.414 **Weight**: 0.967 **Standard error**: 0.283	
Haenn (1996)	Evaluating the Promise of Single-Track Year-Round Schools *(NA)*	**Effect Size**: -0.306 **LCI**: -0.737 **UCI**: 0.125 **Weight**: 1.176 **Standard error**: 0.22	
Smeallie (1997)	An evaluation of an after-school tutorial and study skills program for middle school students at risk of academic failure *(NA)*	**Effect Size**: -0.477 **LCI**: -0.982 **UCI**: 0.029 **Weight**: 1.047 **Standard error**: 0.258	
Morrison (2000)	The protective function of after-school programming and parent education and support for students at risk for substance abuse *(Evaluation and Program Planning)*	**Effect Size**: -0.77 **LCI**: -0.986 **UCI**: -0.554 **Weight**: 1.564 **Standard error**: 0.11