Within class attainment grouping

Low impact for very low cost based on very limited evidence

Withing-class grouping means organising pupils within their usual class for specific activities or topics, such as literacy or mathematics.

Implementation cost

£ £ £ £ £

Evidence strength

Impact (months)

+2 months

Subject breakdown

maths: 14
reading: 5
toolkit: 22

School phase breakdown

primary: 14
secondary: 8
toolkit: 22

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)
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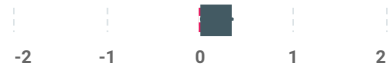
References (22)

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)
Ivey (1965) 1_2	Computation skills: Results of acceleration *(The Arithmetic Teacher)*	**Effect Size**: 0.914 **LCI**: 0.38 **UCI**: 1.448 **Weight**: 3.463 **Standard error**: 0.272	
Ludeman (1969)	A Comparison Of Achievement In An Accelerated Program And A Standard Program Of High School Mathematics In Lincoln, Nebraska, Schools *(NA)*	**Effect Size**: 0.772 **LCI**: 0.547 **UCI**: 0.997 **Weight**: 5.092 **Standard error**: 0.115	
Slavin (1985) SetS	Effects of Whole Class, Ability Grouped, and Individualized Instruction on Mathematics Achievement *(American Educational Research Journal)*	**Effect Size**: 0.749 **LCI**: 0.548 **UCI**: 0.95 **Weight**: 5.2 **Standard error**: 0.102	
Smith (1960) 1_3	The effect of intra-class ability grouping on arithmetic achievement in grades two through five. *(NA)*	**Effect Size**: 0.665 **LCI**: 0.094 **UCI**: 1.236 **Weight**: 3.279 **Standard error**: 0.291	
Jones (1948)	An experiment in adaptation to individual differences. *(Journal of Educational Psychology)*	**Effect Size**: 0.572 **LCI**: 0.319 **UCI**: 0.825 **Weight**: 4.959 **Standard error**: 0.129	
Smith (1960) 1_4	The effect of intra-class ability grouping on arithmetic achievement in grades two through five. *(NA)*	**Effect Size**: 0.535 **LCI**: -0.042 **UCI**: 1.111 **Weight**: 3.25 **Standard error**: 0.294	

Author	Title	Effect Size	Effect Size (Graph)
Smith (1960) 1_1	The effect of intra-class ability grouping on arithmetic achievement in grades two through five. *(NA)*	**Effect Size**: 0.402 **LCI**: -0.118 **UCI**: 0.922 **Weight**: 3.531 **Standard error**: 0.265	
Ivey (1965) 1_1	Computation skills: Results of acceleration *(The Arithmetic Teacher)*	**Effect Size**: 0.372 **LCI**: -0.139 **UCI**: 0.883 **Weight**: 3.579 **Standard error**: 0.261	
Postlethwaite (1978)	Streams for the Future?: The Long-term Effects of Early Streaming and Non-streaming: the Final Report of the Banbury Enquiry *(NA)*	**Effect Size**: 0.304 **LCI**: 0.063 **UCI**: 0.546 **Weight**: 5.016 **Standard error**: 0.123	
Sørensen (1986) 1_1	Effects of Ability Grouping on Growth in Academic Achievement *(American Educational Research Journal)*	**Effect Size**: 0.216 **LCI**: 0.038 **UCI**: 0.394 **Weight**: 5.295 **Standard error**: 0.091	
Spence (1959)	Intra-class grouping of pupils for instruction in arithmetic in the intermediate grades of the elementary school *(NA)*	**Effect Size**: 0.177 **LCI**: -0.013 **UCI**: 0.367 **Weight**: 5.244 **Standard error**: 0.097	
Shavit (1985)	Ability Grouping and Contextual Determinants of Educational Expectations in Israel *(American Sociological Review)*	**Effect Size**: 0.138 **LCI**: 0.11 **UCI**: 0.166 **Weight**: 5.66 **Standard error**: 0.014	
Ziehl (1962)	An evaluation of an elementary school enriched instructional program *(NA)*	**Effect Size**: 0.029 **LCI**: -0.235 **UCI**: 0.293 **Weight**: 4.903 **Standard error**: 0.135	
Eddleman (1971)	A comparison of the effectiveness of two methods of class organization for arithmetic instruction in grade five *(NA)*	**Effect Size**: 0.021 **LCI**: -0.293 **UCI**: 0.335 **Weight**: 4.645 **Standard error**: 0.16	
Kerckhoff (1986) 1_2	Effects of Ability Grouping in British Secondary Schools *(American Sociological Review)*	**Effect Size**: -0.086 **LCI**: -0.123 **UCI**: -0.048 **Weight**: 5.652 **Standard error**: 0.019	

Author	Title	Effect Size	Effect Size (Graph)
Tobin (1965)	An Eight Year Study of Classes Grouped Within Grade Levels on the Bases of Reading Ability *(NA)*	**Effect Size**: -0.114 **LCI**: -0.322 **UCI**: 0.094 **Weight**: 5.168 **Standard error**: 0.106	
Campbell (1965)	A comparison of the effectiveness of two methods of class organization for the teaching of arithmetics in junior high school *(NA)*	**Effect Size**: -0.143 **LCI**: -0.399 **UCI**: 0.113 **Weight**: 4.944 **Standard error**: 0.131	
Kerckhoff (1986) 1_1	Effects of Ability Grouping in British Secondary Schools *(American Sociological Review)*	**Effect Size**: -0.179 **LCI**: -0.216 **UCI**: -0.142 **Weight**: 5.652 **Standard error**: 0.019	
Becker (1987)	Addressing the Needs of Different Groups of Early Adolescents: Effects of Varying School and Classroom Organizational Practices on Students from Different Social *(NA)*	**Effect Size**: -0.23 **LCI**: -0.25 **UCI**: -0.21 **Weight**: 5.665 **Standard error**: 0.01	
Smith (1960) 1_2	The effect of intra-class ability grouping on arithmetic achievement in grades two through five. *(NA)*	**Effect Size**: -0.295 **LCI**: -0.971 **UCI**: 0.382 **Weight**: 2.801 **Standard error**: 0.345	
Kissoon-Singh (1996) 1_1	Cooperative groupings and computer-based instruction: The effects of grouping by ability *(NA)*	**Effect Size**: -0.321 **LCI**: -0.844 **UCI**: 0.202 **Weight**: 3.517 **Standard error**: 0.267	
Kissoon-Singh (1996) 1_2	Cooperative groupings and computer-based instruction: The effects of grouping by ability *(NA)*	**Effect Size**: -0.572 **LCI**: -1.101 **UCI**: -0.042 **Weight**: 3.483 **Standard error**: 0.27