

What is the impact of education programmes on children's learning and school participation?



Improvements in children's school enrolment rates have slowed down considerably after 2004 in low- and middle-income countries (L&MICs). Around 263 million children and youth are still out of school. Access to schooling has also not translated into an improvement in children's learning outcomes in several L&MICs. According to UNESCO's 2014 *Education for all global monitoring report*, approximately 250 million children in L&MICs cannot read, write or do basic maths.

To achieve the ambitious Sustainable Development Goal targets for education by 2030, the spending per primary school student in low-income countries needs to be double the current spending, as per UNESCO's 2015 estimate. But more funding is not sufficient for addressing the learning crisis. Resources need to be directed to programmes that work.

3ie recently completed a comprehensive systematic review of the effectiveness of 21 different types of education programmes on children's school enrolment, attendance, drop-out, completion and learning outcomes. It included evidence covering over 16 million children across 52 countries, participating in 216 education programmes in 52 L&MICs. The findings from this study can help inform decisions about effective strategies for achieving the education targets.

What works in most contexts

- Programmes typically improve learning or participation, but not both
- Tackling the learning crisis requires concurrently addressing multiple barriers to quality education
- Cash transfers improve participation outcomes in most contexts
- Structured pedagogy improves learning outcomes in most contexts

What is promising

- School-feeding
- Community-based monitoring
- Public-private partnerships
- Merit-based scholarships and remedial education programmes

What doesn't always work

- School-based management programmes
- Computer-assisted learning
- Programmes providing education materials

What is unknown

- School-based health programmes
- Providing information to children or parents
- Reducing user fees

Main findings

Most education programmes typically improve either school enrolment and attendance or learning outcomes. They rarely improve both.

What works in most contexts

Cash transfers had the largest and most consistent positive effects on increasing school enrolment, reducing dropouts and improving completion. However, on average, they have not improved learning outcomes.

Structured pedagogy programmes had the largest and most consistent positive effects on improving learning outcomes. These are programmes that typically provide customised curricula, new instructional approaches and teachers' training, and educational materials for students.

What is promising

School-feeding and **community-based monitoring** interventions are among the few programmes that are promising for improving school enrolment as well as learning.

Public-private partnerships, new schools and **toilets** are promising for improving participation outcomes.

Extending the school day, remedial education programmes and **merit-based scholarships** are promising for improving learning outcomes.

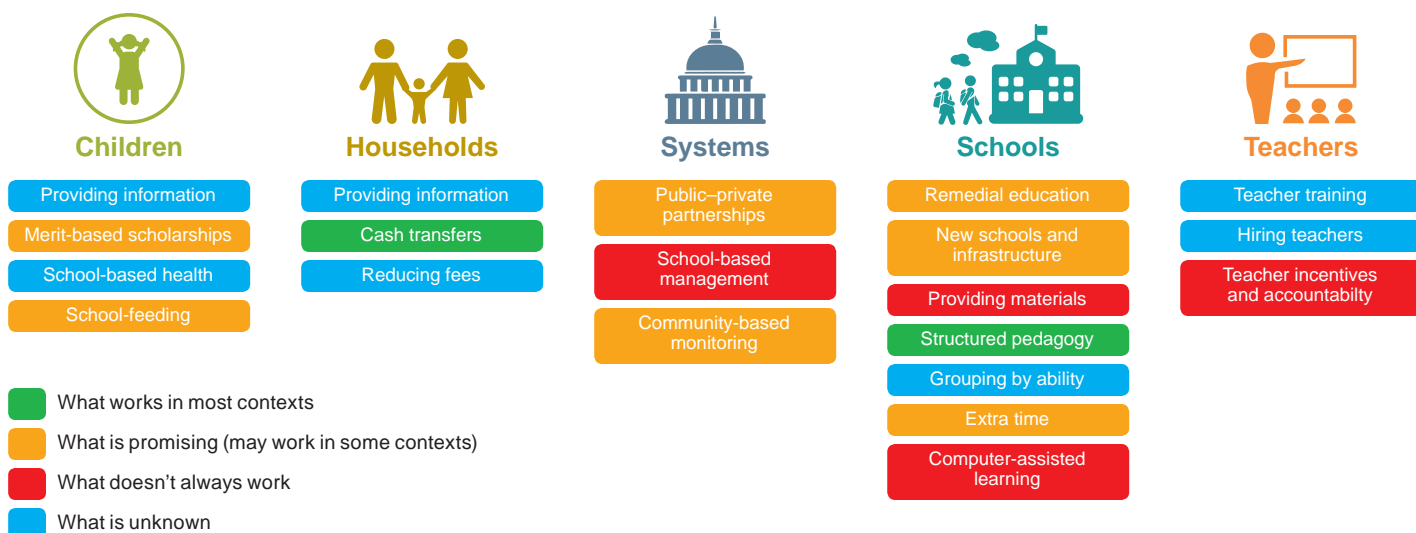
What doesn't always work

School-based management programmes, computer-assisted learning and **programmes providing education materials** have not improved learning outcomes in most contexts. In the case of computer-assisted learning, the effects on learning outcomes have even been negative in some contexts.

What is unknown

The overall effects of **implementing school-based health programmes, providing information to children or parents and reducing user fees** are not clear because there have been few high-quality studies on these interventions.

Figure 1: Review findings



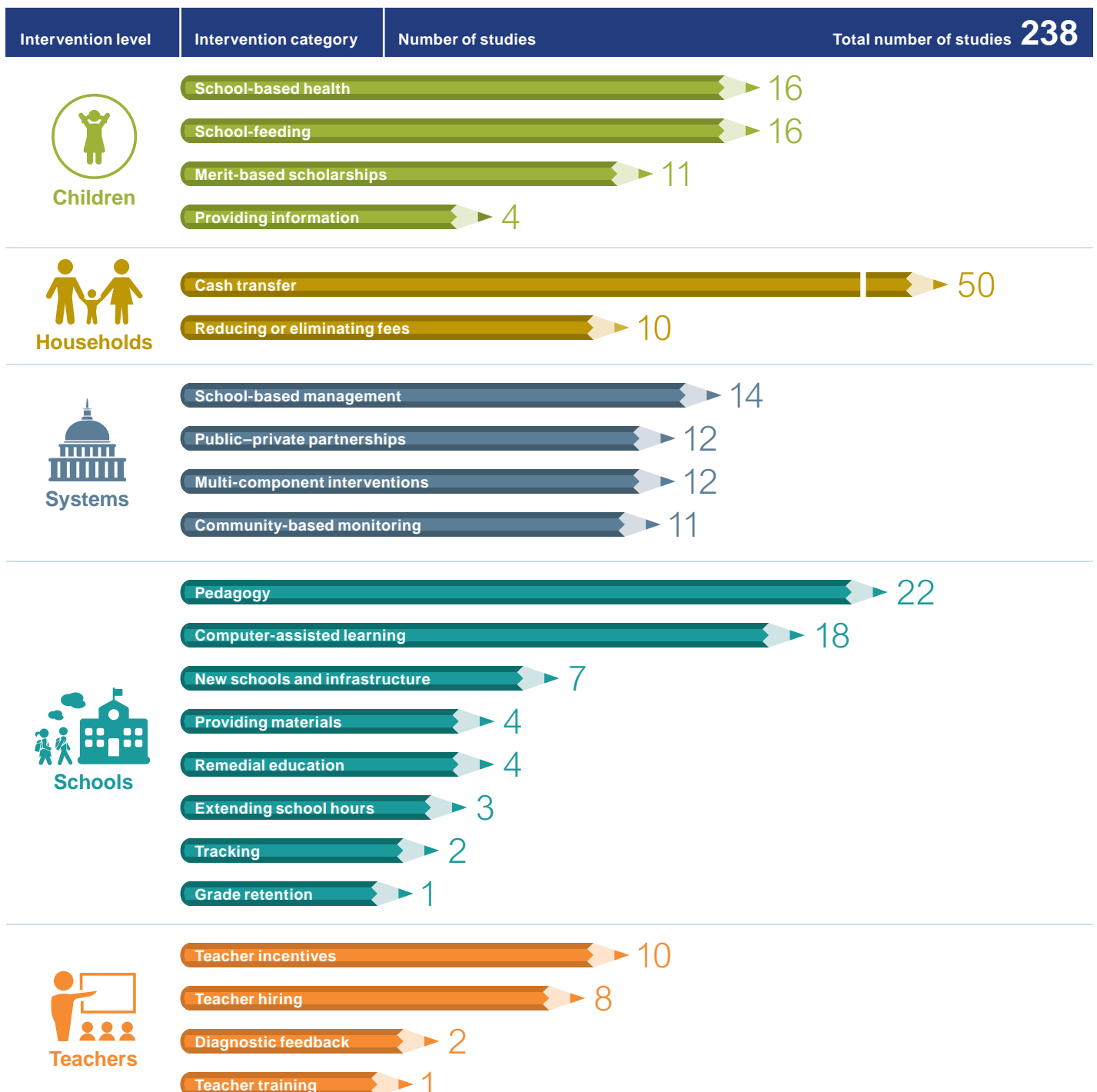
The evidence base

The review drew on evidence from 238 impact evaluations and 121 qualitative research studies and process evaluations. Figure 2 shows that interventions such as cash transfers, structured pedagogy and computer-assisted learning programmes have been studied quite extensively. For other programmes, such as school-based health, information to children, teacher interventions, remedial education and school day extension, the evidence is more limited. Significant investments are being made for funding interventions in understudied areas such as teacher-related programmes. There is an urgent need for generating more evidence for informing funding decisions.

'3ie's systematic review and its summary report offer critical insights on the effectiveness of structured pedagogic programmes, additional instructional time, remedial education and community engagement.'

Jaime Saveedra
Minister of Education, Peru

Figure 2: Uneven distribution of impact evaluations across intervention areas





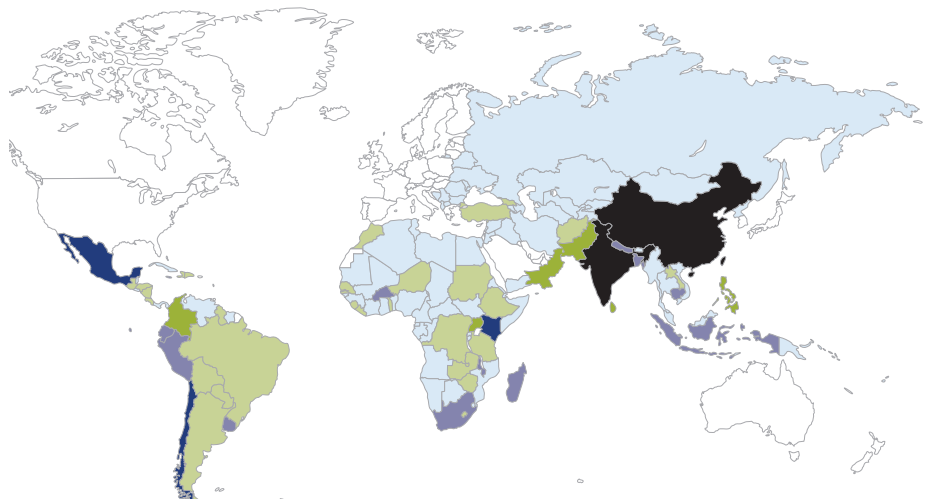
Distribution of studies across regions and countries

The highest number of studies were identified from Latin America and the Caribbean (87), Sub-Saharan Africa (59) and South Asia (51). Countries where several studies have been conducted include Brazil, Chile, China, India, Kenya, Mexico, South Africa and Uganda. For most countries in Sub-Saharan Africa, we identified few or no studies. Evidence is also limited or non-existent from several countries with large populations, such as Bangladesh, Indonesia and Nigeria.

Figure 3: Map of included studies

Incidence of included studies by country

- 19–27
- 7–12
- Fewer than 3
- 12–19
- 3–7
- No data available



Cross-cutting lessons for policymakers and programme managers

Similar education interventions have often led to different outcomes in different countries, or even in different locations within the same country. This highlights the importance of tailoring programmes to the local context, and paying careful attention to programme design and implementation. These are some of the lessons we have learned across programmes and contexts around the world:

Programmes should be tailored to suit baseline constraints and capacities. Many of the successful programmes were those that were tailored to the human and social capital of the location in which they were delivered. School-feeding programmes, for example, are promising for improving both school participation and learning, on average. However, its effects were much smaller in better-off areas where enrolment was already high and malnutrition was less common. School-based management programmes that involved decentralisation of authority to school leadership, teachers, parents and community members did not improve education outcomes overall. However, they had relatively large positive effects on learning in contexts with high levels of social capital and a tradition of local participation.

In some contexts, education programmes need to address constraints to education at multiple levels. For instance, cash transfer programmes were the most effective in boosting school attendance and other participation outcomes. However, they had little effect on learning outcomes. Unless cash transfer programmes are also accompanied by additional resources for schools and teachers, a sharp increase in the number of children enrolled or attending school may reduce the quality of education provided by schools.

Providing education-related 'hardware', such as materials and technology, may be necessary but not always sufficient for improving learning outcomes. Programmes that provided text books or computers did not have any effect on learning. In contrast, structured pedagogy programmes improved learning outcomes by providing customised educational materials as well as teacher training on new instructional approaches to address the multiple constraints to learning. The design of an education programme needs to be informed by the analysis of the main barriers to improved outcomes in a particular context.

Implementation is key to whether a programme is successful. Challenges with implementation have been frequently reported for a range of programmes, including computer-assisted learning, teacher incentive interventions, programmes providing education materials and school-based management. For instance, several computer-assisted learning programmes faced issues such as insufficient and dysfunctional equipment, lack of internet access and software incompatibility. Little or no teacher training, problems with funding, including significant delays in payments, were also reported for several programmes.

Programmes involving teachers need to consider the time and motivation required for them to participate. Evidence on some computer-assisted learning programmes suggests that teachers' workloads, and their attitudes and motivation for making radical changes in the way they teach need to be considered while designing a programme. Evidence from interventions that are directly targeted at teachers also show that programmes need to carefully consider the incentives that affect teacher behaviour.



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Implications for future research

The review has identified several key gaps in the evidence base on education effectiveness.

We need more high-quality mixed-methods impact evaluations. New studies should cover a more representative sample of countries to identify effective interventions that would suit a broader range of contexts. They need to also prioritise carrying out high-quality qualitative research and process evaluations alongside an impact evaluation.

Formative evaluations and pilots can help customise programme design. The failure of several large-scale programmes highlights the need for more formative studies and pilot interventions to better assess the challenges on the ground.

We need more studies to examine effects on different population sub-groups. Most studies included this review report on average effects on all children, without providing sub-group analysis based on sex, age, ethnicity or disability. To achieve sustainable development for all children, we need more studies that examine the differential effects of programmes based on population characteristics.

Studies should evaluate the long-term impact of education programmes, since long-term impact it is often not the same as the short-term impact. We need more studies that track the sustainability of improvements in education outcomes over time

Studies should collect data on costs to allow for cost-effectiveness analyses. Few studies collect data on costs. This limits the usefulness of findings for informing investment decisions.

What is a systematic review?

3ie systematic reviews use rigorous and transparent methods to identify all of the studies that qualify for analysis and synthesis to address a specific research question. Reviewers identify published and unpublished studies and use theory-based, mixed methods to analyse and synthesise the evidence from the included studies. The result is an unbiased assessment of what works, for whom, why and at what cost.

About 3ie's systematic review summary report

This brief is based on *The impact of education programmes on learning and school participation in low- and middle-income countries, 3ie Systematic Review Summary Report 7* by Birte Sniltsteit, Jennifer Stevenson, Radhika Menon, Daniel Phillips, Emma Gallagher, Maisie Geleen, Hannah Jobse, Tanja Schmidt and Emmanuel Jimenez.

It distils key analyses and presents the findings and recommendations of 3ie's full systematic review for policymakers and programme managers. The review analysed the effectiveness of a broad range of education interventions on children's school enrolment, attendance, completion and learning outcomes. This policymaker-friendly summary report and the full technical review are open access and are available on the [3ie website](#).

About 3ie

The International Initiative for Impact Evaluation (3ie) is an international grant-making NGO promoting evidence-informed development policies and programmes. We are the global leader in funding, producing and synthesising high-quality evidence of what works, for whom, why and at what cost. We believe that high-quality and policy-relevant evidence will make development more effective and improve people's lives.



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