

Evidence and Gap Map Research Brief

UNICEF STRATEGIC PLAN 2018–2021 GOAL AREA 2: EVERY CHILD LEARNS

What this research brief is about

This research brief is one of a series of six briefs, which provide an overview of available evidence shown in the [Campbell-UNICEF Mega-Map](#) of the effectiveness of interventions to improve child well-being in low- and middle- income countries (LMICs). Five of the six briefs summarize evidence as mapped against the five Goal Areas of UNICEF's Strategic Plan 2018–2021, although it is anticipated that they will also be useful for others working in the child well-being space. The sixth brief maps the COVID-19-relevant studies.

This brief provides an overview of the available evidence related to education.

The purpose of the research brief is to:

- Make potential users aware of the map and its contents
- Identify areas in which there is ample evidence to guide policy and practice, and so encourage policymakers and practitioners to use the map as a way to access rigorous studies of effectiveness
- Identify gaps in the evidence base, and so encourage research commissioners to commission studies to fill these evidence gaps.



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Box 1: What is the Campbell-UNICEF Child Well-being Mega-Map?

The Campbell-UNICEF Child Well-being Mega-Map maps evidence synthesis studies – evidence and gap maps and systematic reviews – here on in referenced simply as studies, which report studies of the effectiveness of interventions to improve child well-being. The evidence is structured by intervention categories, such as health and nutrition, and by outcome domains, such as morbidity.

Systematic reviews help establish which programmes are effective, for who, and in what circumstances. Evidence maps guide users to the evidence from systematic reviews and impact evaluations. The Mega-Map is an evidence and gap map (EGM) of 536 systematic reviews and 25 EGMs organized into six intervention categories and six outcome domains. This year’s update has seen an increase of 52 systematic reviews on 2020.

The map shows only evidence syntheses that summarize evidence from around the world. It does not show the individual studies. The map shows what evidence syntheses are available, not what the evidence says.

<https://www.campbellcollaboration.org/funding/global-funds/child-welfare-global-fund.html>

What interventions are included for child education?

In the UNICEF Strategic Plan 2018–2021, strategic Goal Area 2, every child learns, is touched on in two Sustainable Development Goals (SDGs):

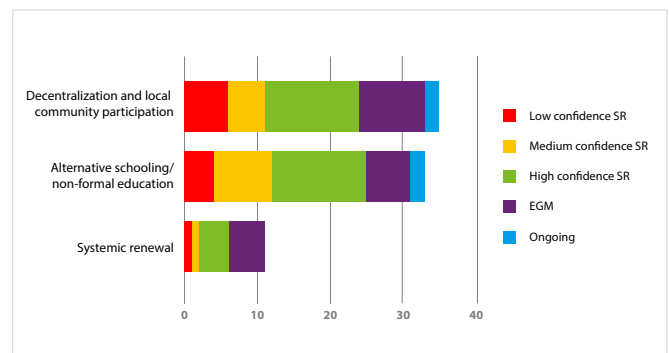
- SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- SDG 5: Achieve gender equality and empower all women and girls

Interventions to ensure that every child learns are mainly in the education intervention category of the evidence and gap map, which has the following subcategories, divided here into three groups with an example of reviews for each subcategory.

SCHOOL SYSTEMS AND MANAGEMENT

- Decentralization and local community participation (26 systematic reviews and 9 EGMs) – e.g., [Best et al. \(2013\)](#), The impact of national and international assessment programmes on education policy, particularly policies regarding resource allocation and teaching and learning practices in developing countries
- Systemic renewal (6 systematic reviews and 5 EGMs) – e.g., [Conn \(2017\)](#), Identifying effective education interventions in sub-Saharan Africa: A meta-analysis of impact evaluations
- Alternative schooling/non-formal education (27 systematic reviews and 6 EGMs) – e.g., [Randolph \(2014\)](#), Montessori education for improving academic and behavioral outcomes among elementary students

Figure 1: Number of studies for school systems and management by systematic review (SR) confidence



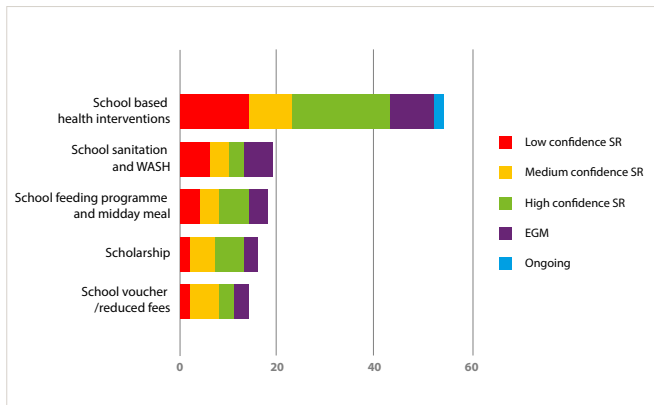
SCHOOL-BASED PROGRAMMES

- School voucher/reduced fees (11 systematic reviews and 3 EGMs) – e.g., [Baird et al. \(2013\)](#), Relative effectiveness of conditional and unconditional cash transfers for schooling outcomes in developing countries: A systematic review
- Scholarships (13 systematic reviews and 3 EGMs) – e.g., [Paruzzolo \(2009\)](#), *The impact of programs relating to child labor prevention and children’s protection: A review of impact evaluations up to 2007*
- School feeding programme and midday meal (14 systematic reviews and 4 EGMs) – e.g., [Kristjansson et al. \(2007\)](#), School feeding for improving the physical and psychosocial health of disadvantaged students
- School-based health interventions (45 systematic reviews and 9 EGMs) – e.g., [Welch \(2016\)](#), Deworming and adjuvant interventions for

improving the developmental health and well-being of children in low- and middle-income countries; [Gimba et al. \(2020\)](#), The modules of mental health programs implemented in schools in low-and middle-income countries: Findings from a systematic literature review

- School sanitation and water, sanitation and hygiene (WASH) (13 systematic reviews and 6 EGMs) – e.g., [Birdthistle \(2011\)](#), What impact does the provision of separate toilets for girls at schools have on their primary and secondary school enrolment, attendance and completion? A systematic review of the evidence

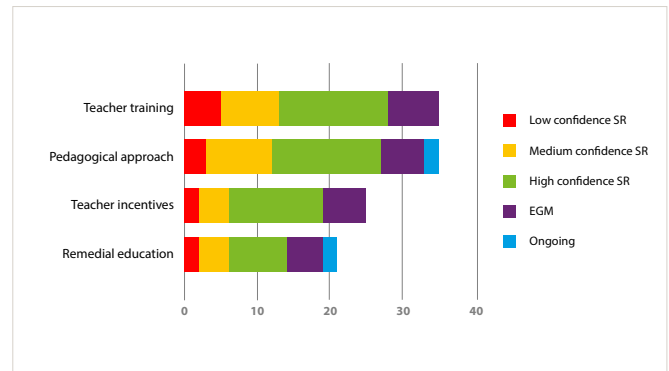
Figure 2: Number of studies for school-based programmes by systematic review (SR) confidence



TEACHERS AND TEACHING

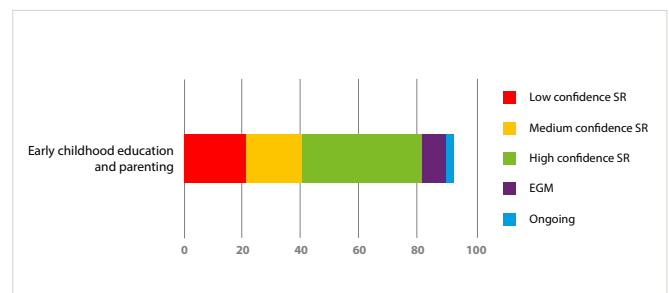
- Teacher incentives (19 systematic reviews and 6 EGMs) – e.g., [Guerrero et al. \(2012\)](#), What Works to Improve Teacher Attendance in Developing Countries? A systematic review
- Teacher training (28 systematic reviews and 7 EGMs) – e.g., [Aslam et al. \(2016\)](#), Reforms to Increase Teacher Effectiveness in Developing Countries: A systematic review
- Remedial education (16 systematic reviews and 5 EGMs) – e.g., [Maynard et al. \(2012\)](#), Indicated truancy interventions: Effects on school attendance among chronic truant students
- Pedagogical approach (29 systematic reviews and 6 EGMs) – e.g., [Dowdall et al. \(2020\)](#), Shared picture book reading interventions for child language development: A systematic review and meta-analysis

Figure 3: Number of studies for teachers and teaching by systematic review (SR) confidence



Also relevant to every child learns is the intervention subcategory early childhood education and parenting in the early childhood intervention category (84 systematic reviews and 8 EGMs) – e.g., [Spier et al. \(2016\)](#) Parental, community, and familial support interventions to improve children’s literacy in developing countries: A systematic review (see Figure 4).

Figure 4: Number of studies for early childhood education and parenting by systematic review (SR) confidence



Most intervention categories are covered by a moderate number of reviews. There are more reviews for health – over 100 for the main intervention subcategories – and for early child development, with 50–100 reviews per intervention subcategory. However, the number of reviews for every child learns is higher than for most interventions in the other categories of environmental health and governance, including child rights.

Studies for every child learns are concentrated on the education interventions and the learning and development outcomes section of the Mega-Map. There are 12 intervention subcategories and 5 outcome subdomains, so there are 60 cells. All but three of these cells contain studies. These three empty cells are all in the school WASH intervention subcategory row.

Study confidence is assessed using the widely used AMSTAR quality assessment tool (see Endnote). There is a higher percentage of high-quality education reviews (54 per cent) than overall (40 per cent), but also a higher share of low-quality ones (24 versus 20 per cent).

The evidence and gap map shows what evidence is there but not what it says. So, to give a taste of the evidence contained in the studies, Box 2 summarizes the evidence of selected studies, with a partial focus on cash transfers.

Box 2: What works in primary and secondary education? Findings from selected reviews

The sector-wide review published by the International Initiative for Impact Evaluation (3ie) reviewed evidence from about 216 education programmes and their effectiveness in improving school attendance and learning outcomes (Snilstveit et al., 2016). The main findings are shown in the table below, identifying five classes of intervention as effective in improving attendance, and four that improve learning outcomes.

	Children and households		Schools and teachers		Systems	
	Attendance	Learning outcomes	Attendance	Learning outcomes	Attendance	Learning outcomes
Positive impact	Cash transfers, school feeding	Merit-based scholarships, school feeding		Structured pedagogy	Low-cost private schools, community-based monitoring	Community-based monitoring
Promising Unclear impact			Remedial education, building classrooms, additional instruction time	Materials		
Little or No impact	Providing information on benefits of education, reducing user fees, school-based health programmes			Teacher incentives	School-based management	

Cash transfers are a programme with a considerable body of evidence. The 3ie review reports findings from 50 impact evaluations. A body of evidence of this size allows examination of heterogeneity to explore effective programme design features. Such an examination shows (Saavedra and Garcia, 2012):

- Cash transfers have a bigger effect for secondary enrolment than primary.
- The size of the transfer matters.
- There is a larger impact if conditions refer to performance and not just attendance.
- The timing of the transfer matters, with less frequent payments having a larger impact, especially if made when education-related expenses need to be made.

Moreover, another review shows that conditions matter. Conditional transfers have more effect on attendance than unconditional transfers, especially if the conditions are properly monitored and enforced (implementation matters) (Baird et al., 2013).

PANDEMICS AND EPIDEMICS

We identified six reviews with an explicit focus on response measures to pandemics and epidemics (such as COVID-19, SARS, MERS, H1N1, HIV/AIDS) or financial crises and natural disasters (such as major earthquakes, the global financial crisis, severe recession and the Indian Ocean tsunami), that fall under the Goal Area of every child learns. These were mostly concentrated in alternative schooling/ non-formal education (e.g., [Zief et al. \(2006\)](#), Impacts of after-school programs on student outcomes).

What outcomes are reported?

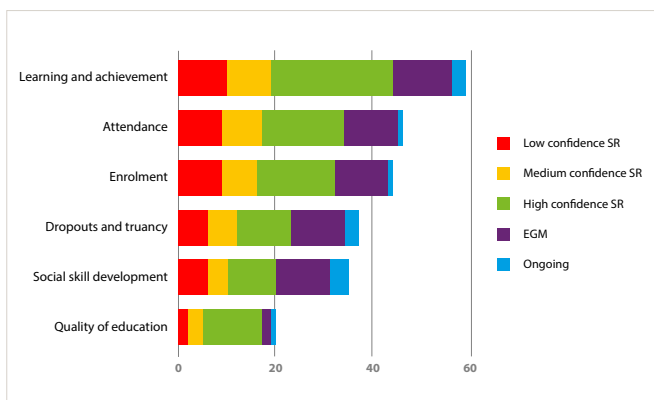
The evidence and gap map also shows studies according to the outcomes they report, which fall under two outcome domains – namely, healthy development, and learning and development (see Figure 5).

Table 1 shows the number of studies for each outcome subdomain, classified by the relevant SDG. The largest numbers of studies relate to cognitive development (69) and learning and achievement (58). There are no outcomes for which there is a notably small number of studies.

Table 1: Number of studies by outcome domain, classified by SDG

Goal Area 2: Every child learns	Sustainable Development Goal	
	4: Quality Education	5: Gender Equality
Healthy development	Cognitive development (69)	
Learning and development	Enrolment (44) Attendance (46) Dropouts and truancy (37) Learning and achievement (59) Social skills development (35) Quality of education (20)	Gender disaggregated data

Figure 5: Number of studies for learning and development outcome categories by systematic review (SR) confidence



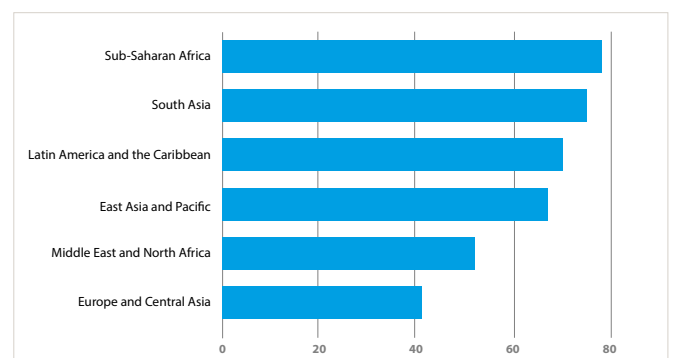
Where is the evidence from?

Systematic reviews are often global in scope. We included in the map all reviews for which studies from developing countries were eligible for inclusion, whether or not there were actually any studies from developing countries included (see Figure 6). The screening process did not check whether the review actually included studies from developing countries.

However, many education reviews focus on developing countries, such as [Baird et al. \(2013\)](#), Relative effectiveness of conditional and unconditional cash transfers for schooling outcomes in developing countries, and [Baker-Henningham and López Bóo \(2010\)](#), Early Childhood Stimulation Interventions in Developing Countries: A comprehensive literature review.

Additionally, some reviews are focused on specific developing regions, such as [Asim et al. \(2015\)](#), Improving Education Outcomes in South Asia: Findings from a decade of impact evaluations, and [Conn \(2014\)](#), Identifying effective education interventions in sub-Saharan Africa: A meta-analysis of impact evaluations.

Figure 6: Number of studies by World Bank region



Where are the evidence gaps?

There are no absolute evidence gaps in the Goal Area of every child learns, as there are studies in virtually every cell. However, the evidence is not evenly distributed. There are reasonable bodies of evidence synthesis related to teacher training and incentives. There is less evidence around remedial education, non-formal education and scholarships. The most notably weak evidence base is for the intervention subcategory systemic interventions. It would be useful to undertake more detailed maps of the evidence in developing countries relating to these subcategories.

However, digging deeper shows areas in which evidence is lacking. For example, there is no review of delivering education in humanitarian settings or of inclusive education for people with disabilities. The evidence base should be further assessed against priority areas such as these.

Implications of findings

There is a reasonable body of evidence synthesis to support policies, programmes and practice for ensuring that every child learns.

The largest bodies of evidence are for both learning outcomes and cognitive development. At the same time, there is a widespread learning crisis across the developing world. So, there is an opportunity to sort through that evidence to develop a clear set of minimum child development and education standards.

Since this is a map of evidence synthesis studies, the lack of evidence synthesis does not mean that there are not any primary studies. In areas in which there is a reasonable amount of evidence synthesis already – which is most areas of the Mega-Map – it is recommended that evidence and gap maps be constructed to gain an idea of the extent of the developing country literature, and also to develop a taxonomy of approaches relevant in these contexts. This could certainly be done for early child cognitive development, teacher incentives, teacher training and pedagogy. Attention should also be paid to policy areas of interest, such as supporting the transition to secondary education, obtaining gender equality in education and reaching ‘last mile’ populations.

Where there are fewer primary studies or where these are dated, it is recommended that these reviews be updated, applying meta-analysis where appropriate. Reviews of remedial education and different pedagogical approaches (identified when constructing the evidence and gap map) would be useful, as well as reviews of developing country literature on teacher incentives and tackling teacher absenteeism.

How can the map be used by UNICEF?

The map can help UNICEF staff and partners to identify evidence-based programmes and practice to help achieve the agency’s strategic goals.

While the evidence base is comparably thin in this area, there are reviews on interventions of great interest to UNICEF, such as school feeding programmes. The map should help UNICEF staff and partners to identify relevant evidence for their work. There is an opportunity to draw on this evidence base to develop evidence-based guidelines for programmes across UNICEF or indeed for all governments and development agencies.

However, there are important areas where the evidence base is thin – such as remedial and non-formal education – or non-existent, such as education in humanitarian settings. Thus, for UNICEF and other agencies adopting an evidence-based approach, to become truly evidence-based there is a need for substantial, strategic investments to generate evidence of what works.

Endnote: Assessing the confidence of systematic reviews

For systematic reviews, we score each study using the 16-item checklist called AMSTAR 2 (Assessing the Methodological Quality of Systematic Reviews). The 16 items cover: (1) PICOS in inclusion criteria; (2) ex ante protocol; (3) rationale for included study designs; (4) comprehensive literature search; (5) duplicate screening; (6) duplicate data extraction; (7) list of excluded studies with justification; (8) adequate description of included studies; (9) adequate risk of bias assessment; (10) report sources of funding; (11) appropriate use of meta-analysis; (12) risk of bias assessment for meta-analysis; (13) allowance for risk of bias in discussing findings; (14) analysis of heterogeneity; (15) analysis of publication bias; and (16) report conflicts of interest.

Items 2, 4, 7, 9, 11, 13 and 15 are termed ‘critical’. Study confidence is rated high if there is no more than one non-critical weakness, and medium if there are no critical weakness but more than one non-critical weakness. Studies with one or more critical weakness are rated low confidence.

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About this Innocenti research brief

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