

Evidence Brief - Improving Education Outcomes: a review of global and Pakistan evidence

(prepared by Monazza Aslam¹)

Introduction

This evidence brief provides a snapshot view of evidence on interventions that have improved educational outcomes globally, as well as nationally and sub-nationally in Pakistan. This brief highlights some of the key evidence to date generally on learning outcomes and on specific sub-themes, namely: preparing children for school; effective governance, management, and accountability (system- and school-level); teacher knowledge, skills, and classroom practice; use of assessments; use of data and data systems; allocation and use of financial and other resources; and, finally, evidence on the role of non-state and private actors. This brief also presents some example evidence of what have been classified as ‘smart’ buys to improve educational outcomes in Pakistan. Whilst this document hopes to provide a snapshot view of education evidence both globally and from Pakistan, it recognises the importance of nuance and context and recognises that what might have ‘worked’ in another context, may not be feasible or [may fail](#) in the Pakistani context due to political economy factors, implementation constraints or due to other challenges.¹

Immense strides made but more needs to be done to improve learning globally and in Pakistan...

There is evidence from across the world that ‘transformational change in children’s learning is happening at large scale’ and tends to occur when innovative ideas are allowed to take root and develop and grow ‘at the margins and then spread to reach many more children and youth’...scaling from the margins can be a very effective means of eventually improving learning at a greater scale ([Millions Learning Report](#)).

Despite the immense strides that have been made in expanding education globally over the past few decades, many children are still not benefitting even from primary education. The global schooling access figures also conceal the fact that whilst millions of children may be attending school, they may not necessarily be learning. Both absolute and relative learning levels remain low, particularly in low-income countries, and this ‘learning crisis’ appears to disproportionately affect children who face marginalisation due to their socio-economic status,

gender, location, caste, disability, and other characteristics. Recent evidence from a large-scale educational reform on students’ learning outcomes in Ethiopia (GEQIP-II) has shown that learning levels have not increased commensurate with enrolment which places immense pressure on school systems.²

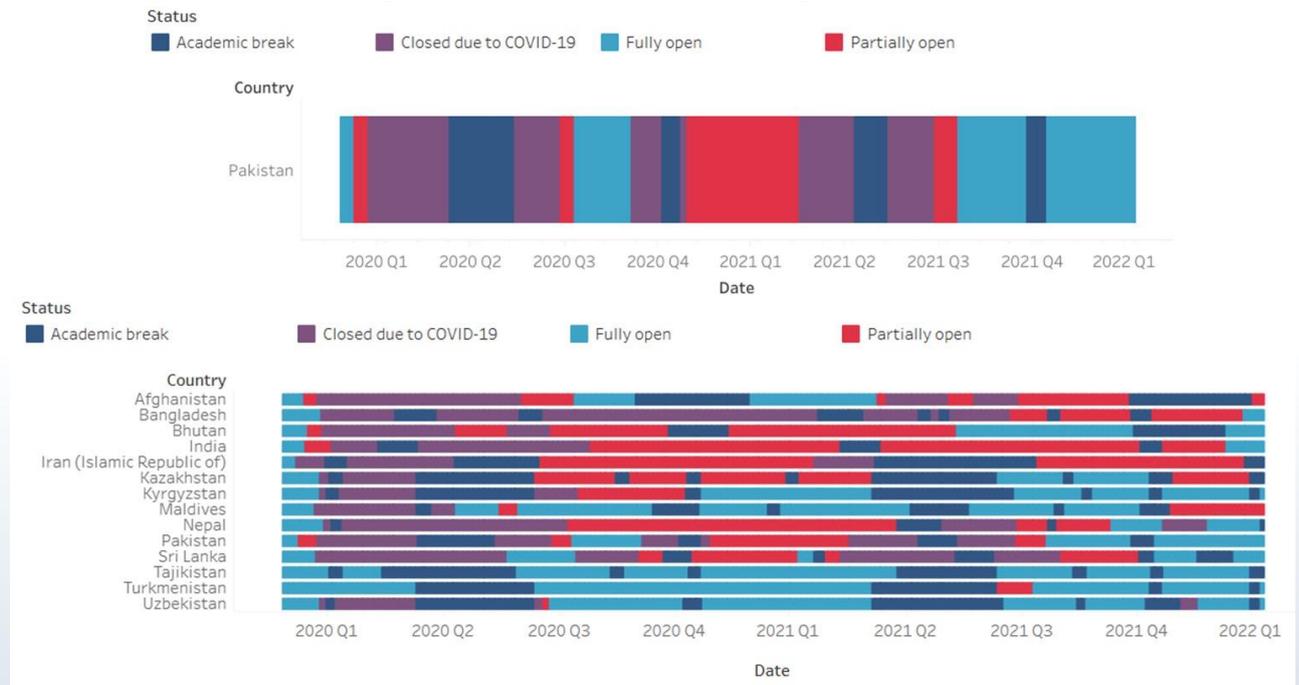
The Covid-19 pandemic has exacerbated existing educational challenges and created new ones.

The Covid-19 pandemic has been called a ‘ticking time bomb’ for young children, adolescents and youth whose life trajectories have been altered by the pandemic.³ Pakistan has the second largest population of children out of school in the world, with at least 22.8 million children in Pakistan outside of formal schooling structures (Pakistan education statistics 2016-2017). This figure is likely to be significantly higher due to Covid-19, with a particular impact on girls, marginalised and poorer children. Recent evaluation evidence from the Girls Education Challenge has showcased the large learning losses in maths and reading reported by sampled girls in Kenya and Nepal with household poverty identified as the single most important factor determining dropouts during the pandemic.⁴ Recent estimates have shown that school enrolment declined by 6 percentage points for children aged 6-14 years in Pakistan

¹ Gratefully acknowledging the support provided by Maria Brindlmayer (BE2 Secretariat), Emily Trinder (Mannion Daniels), Rachel Hinton, Saima Anwer and Freya Perry (FCDO), all errors are the author’s. This brief draws extensively from the larger evidence summary produced by Monazza Aslam and Shenila Rawal (2019) for HEART EACDS.

once schools reopened after Covid-19 closures. Whilst there was no difference by gender, enrolment did decrease more for children residing in households with lower levels of education. The pandemic also created almost 1.6 million idle youth (neither employed nor in school) in Pakistan alone (Ibid).⁵ Simulation exercises have shown that even the most optimistic simulation scenario predicted a learning loss for every child enrolled in Pakistan – with school closures resulting in a loss between 0.3-0.8 years of learning-adjusted schooling for an average student in Pakistan.⁶

Pakistan’s school closure compared to school closures in the region:⁷



Focus on the interventions that are cost-effective, supported by strong/good evidence and have been shown to have worked in improving outcomes whilst being mindful of contextual needs.

High rates of learning poverty are indicators of the wide learning gaps that prevent children from accessing schooling and learning but key is for us to better understand how to keep children in school when they are there and to ensure they learn meaningfully when in school.⁸ But

With education controlled provincially, the importance of political economy factors and regional influences in Pakistan cannot be underestimated. When considering the evidence listed in this document it is crucial to be mindful of the contextual nuances which influence learning outcomes. For example, there have been multiple studies highlighting the positive impact of reducing travel times to schools, but the results have varied between provinces and types of schools e.g. government run or public-private partnerships. (FCDO Pakistan)

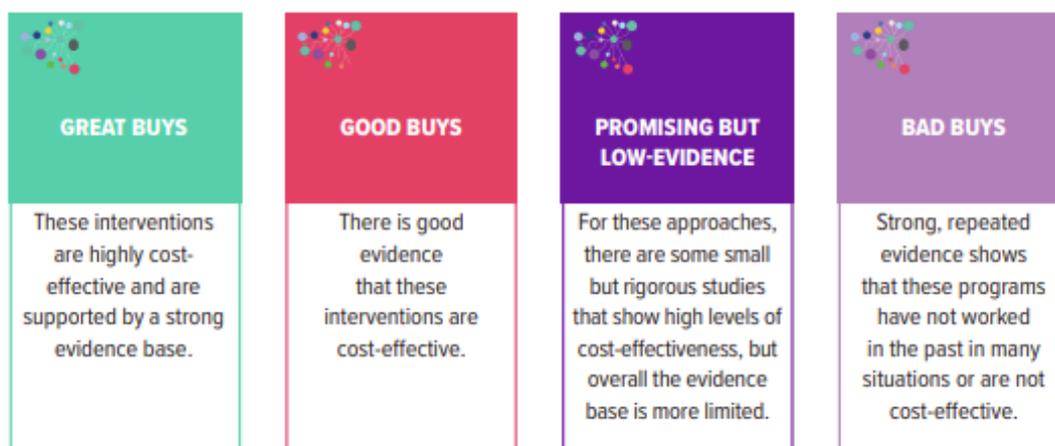
The World Development Report (2018) identifies four key underlying determinants that are most directly linked to learning outcomes: learner preparation, teacher skills and motivation, the availability of relevant inputs, and the school management and governance that brings all these aspects together. (WDR 2018)

But what are the ‘smart buys’ and ‘good buys’ i.e. the

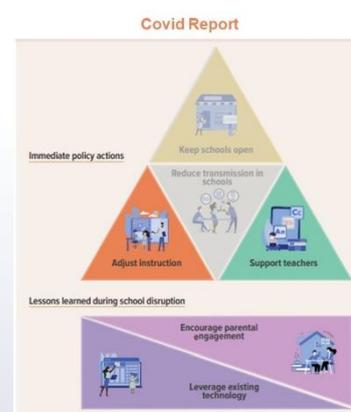
most cost-effective interventions that are supported by strong/good evidence to raise learning outcomes? This report will present examples of some of these interventions. Whilst global interventions that have ‘worked’ in other contexts may provide useful examples, context remains critical in determining

the success or failure of an intervention. The context-specific needs, political economy factors, implementation constraints etc. must all be comprehensively examined before decisions are made.

The GEEAP rated cost-effective interventions in the following categories:⁹



In the subsequent GEEAP report, the Panel highlighted those interventions that are particularly important following the pandemic: adjusting instructions, supporting teachers, and also summarized lessons learned during the pandemic that should be taken into account post-pandemic: encouraging parental engagement and the leveraging of existing technologies.¹⁰



Box 1: Measuring learning outcomes – ‘to take learning seriously, start by measuring it’¹¹

The Annual Status of Education Report (ASER) has significantly added to the global evidence base since 2009. This citizens-led initiative has aimed to collect information on basic learning outcomes across Pakistan with the aim of capturing even those who may be out of school by assessing them at home. The resultant data set has several key strengths, including its breadth across all rural (and some urban) districts and its ability to be disaggregated by various theme (e.g. gender, province, socio-economic status, and more recently by disability). However, these data also face key limitations, including the fact that the learning outcomes are not sufficiently rich or diagnostic enough to make judgements over a broad definition of meaningful learning.

Evidence from the latest ASER report (2021) has shown that whilst there is an upward trend in the pattern of learning outcomes (as measured by competencies in the Grade 2 curriculum for children aged 5–16 years), children are learning too little and slowly e.g. just under half of the children of Grade 5 age in rural Pakistan have not reached Grade 2-level competencies. The latest ASER data also show that fewer girls aged 5–16 years are reaching grade 2 competencies compared to boys (e.g. just 45% sampled girls able to read a sentence in Urdu/Sindhi/Pashto as compared to 49% boys). Huge provincial variations persistently remain – with children in Sindh province performing persistently more poorly as compared to children in other provinces.¹²

Evidence on early learning and learning outcomes.

Summary of evidence on preparing children for school globally and in Pakistan

- Global evidence suggests that investing in the early years can reap rewards later on in the education cycle.
- Evidence is particularly sparse in Pakistan. However, there are some initiatives underway which have shown that investing in early years leads to improved child readiness for primary school, better executive functioning, and improved aspirations. The evidence base is growing in developing contexts; however, certain crucial areas remain under-researched.
- The strength of the global evidence is **strong/medium**, with a varied quality of studies, including some very high-quality studies.
- The strength of the evidence in Pakistan is **weak** and limited, with a few very **high**-quality studies though some studies from Pakistan suggest the existence of a few ‘good buys’ that have provided robust evidence to support specific early childhood development interventions in certain regions of Pakistan.¹³

Global evidence suggests that investing in the early years can reap rewards later on in the education cycle and during the entirety of a person’s life. As the GEEAP ‘Smart Buys’ report indicates, investing in pre-primary education (ages 3-5) is a very cost-effective investment, supported by substantial evidence. As the report says, ‘there is now substantial and relatively consistent evidence from many different contexts that pre-primary education has positive impacts on learning and on cognitive development for children ages 3-5’. While most of the evidence is from high-income countries, the report highlights several studies in low- and middle-income countries that have tested low-cost models at large scale (for example, in India and Kenya) and models using national systems (e.g., Uruguay). The report cites promising evidence as well indicating that early childhood stimulation programs for parents can generate benefits that last into adulthood, but also states that ‘the evidence of the long-term effects and scalability is more limited in low-income countries’.¹⁴

Good Buy	Promising but low evidence
Interventions Pre-primary education (ages 3-5) 	Intervention Early childhood stimulation programs (for ages 0 to 2), targeting parents 

Even small initial investments in a child’s early years can lead to large returns in the form of better child development. Studies have also found larger effect sizes of child-focused educational programmes in developing countries as compared to developed contexts.¹⁵ In addition to these individual gains from investing in the early years, there is also evidence that suggests that investing in a child’s early years can improve the efficiency of the education system as a whole. More specifically, the evidence suggests that during the very early years (0–3 years), parental engagement and the health sector can play crucial roles in facilitating child development; during the years 3–5, there is evidence that community-based and community-managed interventions can have promising results (in the form of improved child development outcomes); the early primary years (5–8 years) are identified in the literature as critical transition years which require schools to be prepared to receive children (in the form of appropriate infrastructure and curricula and a teaching cadre that is trained to teach children at this age).¹⁶

Since the Lancet published the landmark series, Child Development in Developing Countries in 2007 and 2011, and the latest series published in 2017,¹⁷ momentum has been growing. In particular, between 2000 and 2015, scientific publications on this theme have increased by more than seven-fold, the number of early childhood development actors has increased, funding in this area has increased, a third of the countries in the world have adopted related policies, and global support has emerged in the form of the SDG2. Global evidence is also emerging through new initiatives such as the Early Learning Partnership, a multi-donor trust fund managed by the World Bank, that works with countries to promote increased investment in children’s early years through research, policy planning, project design, and finance.¹⁸ This programme offers the opportunity for countries to undertake efforts to improve early learning by engaging the non-state sector; and investing in early learning to develop skills, measure

learning quality and outcomes, and support operations research and process and impact evaluations to take projects to scale.

The evidence on early childhood education is especially sparse in Pakistan. Some 40% of children aged five and under in the country are reportedly underweight and the country is ranked sixth in the world for growth-stunted children.¹⁹ Various ASER 2009–2018 have consistently noted very poor learning levels of young children. The research space on early childhood development has very limited evidence.²⁰

Box 2: Young children especially vulnerable to disasters and pandemics

Early childhood lays the foundations for future brain and physical development and young children remain especially vulnerable to disasters such as earthquakes and global pandemics. Both global and Pakistan-specific evidence attests to this. During the pandemic, many young children missed out on immunisations and stopped going to preschool. The disruptions posed by the pandemic meant that many young children have been unable to access early childhood education and care and are entirely reliant on their caregivers to meet all of their developmental needs (physical, emotional, social and cognitive). It is estimated that [40 million children](#) may have missed out on critical pre-school education globally due to Covid-19.²¹ The pandemic is also likely to have differentially impacted the more disadvantaged families already facing financial and health crises. Estimates from the World Bank (2023) noted that preschools closed almost across the board at the beginning of the pandemic and remained closed for a year and even longer in many countries.²² Even after opening, preschool enrolment figures did not return back to pre-pandemic levels e.g. they remained between 10-15 percentage points lower than before the pandemic in Brazil, Pakistan and South Africa. ‘Alarming’ declines in cognitive and social-emotional development have also been noted amongst young children (ibid) - in Bangladesh toddlers tested in 2022 lagged behind their counterparts in 2019. Evidence from [Pakistan](#) that examined education outcomes of children affected by the earthquake of 2005 found that children in ‘their critical first thousand days at the time of the earthquake accumulated large heigh deficits, with the youngest most affected.’²³

Some promising evidence of ‘good buys’ is starting to emerge... with research showing the effectiveness of delivering responsive stimulation and enhanced nutrition interventions to young children with the responsive stimulation showing improvements in two-year olds’ cognitive, language and motor development.²⁴ The Pakistan Early Child Development Scale-Up PEDs Trial is a longitudinal RCT that examines lessons from integrating quality ECD interventions in community health services. Learning Lessons for Integrating Quality ECD Interventions in Community Health Services. A subsequent follow-up of this RCT when the children were four years old showed that responsive stimulation delivered in a community health service in Pakistan could improve children’s development care two years after the end of the intervention.²⁵ The PEDS trial cohort is currently being followed up at age eight years old to investigate the longer-term impacts of the intervention when children reach school age. Another promising intervention has examined the effectiveness of a youth-led early childhood care and education programme in rural Pakistan, specifically in Sindh province.²⁶ In this cluster-randomised trial, trained female youth delivered an ECCE programme that was aimed at improving young children’s (between 3.5-5.5 years old) school readiness. The study showed that this model was significantly effective in improving school readiness for young children nine months after the intervention and indicates the effectiveness of a ‘cross-generational’ model as a promising approach to supporting early childhood development in this context.

Evidence on effective governance, management, and accountability at the system level and at the school level

Summary of evidence on effective governance, management, and accountability globally and in Pakistan

- The global evidence suggests that developing country education systems feature weak governance (as indicated by high rates of teacher absence and low levels of effort).
- Changing education system governance at scale is constrained by political factors.
- Evidence suggests that interventions that improve the governance of school systems, especially those that change teacher effort and accountability, may have large positive impacts on learning outcomes in developing countries.
- The Pakistan-specific evidence suggests similar findings: the decentralisation process has in theory and potentially in practice increased the accountability and voice of a wide range of stakeholders.
- Pakistan evidence also suggests that teacher effort remains a persistent problem, and has been the target of reform efforts, such as the introduction of the contract teacher policy.
- The strength of the global evidence is **medium**.
- The strength of the Pakistan-specific evidence is **weak**, with a limited number of high-quality studies.

A global body of evidence suggests that **weak governance in the education systems of developing countries can constrain the effectiveness with which inputs are translated into outcomes.**²⁷ Kingdon et al. (2014) have also summarised the global literature on the political economy of education systems and how it impacts learning outcomes.²⁸ Their summary of the evidence also indicates that rent-seeking and patronage politics can result in leakages within the system, and that vested interests can hinder efforts to reduce corruption and can obstruct governance structures.

An education system is only as good as its teachers and the wider education workforce.²⁹ The efforts of all of these individuals contribute towards how effectively schools are run and learning is delivered. Each member of the education community plays an important role in ensuring that children receive an education that is of a high quality. Within this cadre of employees, there is a wide consensus that teachers are what matter most within a schooling system. Hanushek (2011) goes as far as to say that no other attribute of schools has as much influence on student achievement as teacher effectiveness.³⁰

Increasing the quantity of teachers and the quality of their teaching are important for addressing the global learning crisis. A multitude of global evidence has highlighted the fact that the global learning crisis cannot be resolved without actions to boost teaching.³¹ This requires not only increasing the quantity of teachers but also enhancing the quality of teaching that takes place. Global evidence has suggested that the learning crisis can be resolved using the following strategies: filling teacher gaps; attracting the best candidates into teaching; training teachers to meet the needs of all children; preparing teacher educators and mentors to support teachers; effectively deploying teachers; incentivising teachers to remain in the profession through competitive career and pay structures; improving teacher governance; equipping teachers with innovative curricula; and developing classroom assessments and providing better data.³² For example, classroom assessments are a vital tool that can help identify and help learners who are struggling. If teachers are appropriately trained, these can be used to assist them in detecting learning difficulties early and implementing appropriate strategies.

Policies aimed at addressing persistent challenges of governance are needed and teachers/educators need to be provided with relevant support. Given persistent shortages of

'Educators not only provided adapted learning opportunities, but also critical health, safety, and wellbeing information and pastoral support. Educators played pivotal roles in the community but may not be adequately equipped for this pastoral role or compensated for the additional time and resources expected from them. Educators' own wellbeing appeared to be comparatively overlooked...'

Rose et al. 2021 ([GEC II Independent Evaluation Report on Teachers and Teaching during Covid-19](#))

teachers in developing countries, as well as the ageing population of many educators, ensuring the diversity and representativeness, as well as quantity, of potential teaching candidates should be a priority of the global agenda, particularly in ensuring that disadvantaged communities are served. The global evidence base suggests that even where teacher numbers are adequate, teacher absence and low time on task can severely limit the learning that takes place. Therefore, policies aimed at addressing persistent challenges of governance which influence teacher absence and effort need to be implemented. Improvements in working conditions and strong leadership teams can ensure that teachers turn

up, work hard, and are not overburdened with non-teaching duties.³³

Global evidence on the importance of effective school leadership is not extensive and the evidence base on this topic is especially scarce in Pakistan. On the whole, it would appear that effective school leadership has a positive relationship with both school performance and student learning through its direct and indirect impact on the school culture and working environment, as well as teacher motivation and efficacy.³⁴ There is also some evidence that suggests that instructional leadership (leadership focused on instruction and teaching and learning processes within the classroom) has a greater impact on student learning compared with other leadership models or styles.³⁵ There is also evidence from developing country contexts that appears to suggest that management and/or school leadership are important factors, with strong leadership correlated with greater success of school-based management initiatives.³⁶ The studies exploring school leadership within the Pakistani context are based on small sample sizes and tend to be more qualitative in nature. Head teachers and the role they play barely feature in educational plans and policies in Pakistan.

Global evidence suggests that greater teacher accountability to local government and school management, or even to parents, may lead to changes in teacher attendance and/or effort. Teacher incentive programmes that simply rely on parents or principals to monitor attendance and distribute incentives have not been successful; however, those that have offered teachers cash incentives for improving their students' performance in standardised tests have shown some positive increases in student learning.³⁷ Several studies examining teacher performance-related pay have shown a positive impact of this type of intervention on test scores.³⁸ These results suggest that rewarding teachers based on objective measures of performance, such as attendance or test scores, can generate improvements in learning outcomes in a more cost-effective manner than generally increasing education spending.³⁹ However, it is difficult to design incentive schemes that do not elicit dysfunctional responses (e.g. teaching to the test to the detriment of more wider learning, and even in some instances teachers being tempted to cheat).

There is limited evidence on teacher accountability and incentive reforms in Pakistan with some promising interventions highlighted. [Asad et al. \(2020\)](#) examine educator accountability by the KP government. Under this reform, educator promotions were linked to performance measures collected by government district officials, rather than, for example, seniority. The research team worked with the KP government to conduct a randomised controlled trial (RCT) in 240 rural primary schools during the 2017-18 school year. This experiment evaluated two variations - linking teacher promotions to their and their students' performance; and linking head teacher promotions to their and their teachers' performance. The study found no significant impacts on outcomes for students or educators. The authors suggest that 'system incoherence' may be to blame and

Examples from Pakistan suggest that while incentive programmes have potential, attitudinal changes are needed and systemic challenges need to be overcome for such interventions to be successful.

Asad et al. (2020)

that deep-rooted ‘mental models’ are resistant to change.⁴⁰ However, another study by Habib in KP (2015) that explored the teacher and schools’ incentives in KP Pakistan where the provincial government established a Monitoring Unit to collect data on key school-level indicators in the 28,000+ KP schools on a monthly basis, with the objective of improving teacher effort and monitoring the schooling system found more positive results. This research concludes that substantial gains in education achievement can be expected in the province through the reform initiatives that focus on incentives to lower teacher absence and to fill teacher vacancies. The research also notes that even one committed administrator can make a difference, and that more support at the local level could create incentives for greater leadership and innovation at the school and sub-district levels.⁴¹ The Girls Community School programme under the Khyber Pakhtunkhwa Education Sector Programme (KESP), also illustrates the challenges of implementing successfully if governance systems of the schools and province are not also considered. The KESP Year 2 synthesis noted that existing systemic governance challenges have played an important role in preventing further integration of the GCS into the wider education system.⁴²

Evidence from Pakistan focusing on teacher contracts and other performance pay measures for teachers and student learning has produced mixed findings. De Talancé et al. (2017), using LEAPS data from rural Punjab, find strong evidence of teacher effects on pupils’ skill acquisition. They find that certain characteristics are particularly associated with improvements in learning outcomes, such as teachers employed on fixed term contracts as compared to those on permanent contracts, locally-recruited teachers, and those with higher wages. One pathway highlighted by De Talancé et al. suggests that evaluation is what drives the better performance of better teachers suggesting that strengthening supervision of both permanent and contract teachers, with credible repercussions for poor performance, could be a useful policy tool. These are more policy-amenable factors, as compared to teacher education and experience, which have been shown to have relatively little impact on pupil learning.⁴³ However, a study by Barrera-Osorio and Raju (2017) explored teacher performance pay in a government administered pilot in Punjab did not find positive student outcomes associated with teacher bonuses. This programme offered cash bonuses to teachers in public primary schools with some of the lowest mean exam scores in the province. The bonus was linked to the change in the school’s average student exam scores, the change in the school’s enrolment, and the level of student exam participation in the school. Evidence from this research shows that this programme increased student exam participation rates (in the second and third years) and increased enrolment in Grade 1 in the third year but did not improve student exam scores in any year. The authors attribute the lack of impact on test scores to weaknesses in the programme’s incentive structure (for example, teachers did not have faith that they would receive the bonuses) and/or limitations in the programme administrative data (as with other developing country contexts, data on which performance was assessed may not be reliable, accurate, or trustworthy).⁴⁴ However, a more recent study from the RISE programme in Pakistan that conducted an RCT using teachers’ contract choices amongst 7000 teachers from 243 private schools found performance pay to induce ‘positive sorting’ and in doing so improved the ‘composition of teachers’.⁴⁵ However, it is worth noting that this was purely in the private schools context which may be very different from the government school sector.

Evidence on Teacher knowledge, skills, and classroom practice

Summary of evidence on teacher knowledge, skills, and classroom practices globally and in Pakistan

- The global evidence base suggests that **measuring teacher quality is challenging**; however, there is an overarching consensus that who teachers are and what they do matters.
- **Teacher effectiveness reforms** have been implemented in several developing countries, with **many showing positive relationships with improving learning outcomes**. These initiatives include those that have improved teacher skills, pedagogy, teaching the most disadvantaged etc.
- The global evidence suggests that the reforms that appear to improve learning outcomes are those that **improve teacher effort, teacher certification, teacher training interventions, pedagogic interventions, those that improve teacher content knowledge, and those that support teachers in teaching the most disadvantaged**.
- The Pakistan evidence base is indicative of more competent and knowledgeable teachers improving learning even in very challenging contexts. However, the evidence also shows that teachers in Pakistan are not always prepared to address the diverse needs of students, particularly of marginalised children. There are some examples of ‘smart buys’ from Pakistan that focus on provision of structured lesson plans to teachers and target teaching instruction.
- The strength of the global evidence is **strong**. There are several studies covering this theme, with many high-quality studies across a diverse range of contexts.
- The strength of the Pakistan evidence is **medium**. There is a growing evidence base that includes some rigorous studies.

The GEEAP report (2020) identifies several interventions that change how teachers teach to be ‘smart buys’ – i.e., some of the most cost-effective interventions supported by good evidence across a range of contexts. These have tended to include interventions that provide teachers structured lesson plans with linked materials with ongoing support, training and monitoring and reforms that target teaching instruction by learning level rather than grade.⁴⁶

In the first, interventions that provide step-by-step lesson guides aimed at improving pedagogy where teacher knowledge is low and teachers are weak in primary school settings have been shown to be especially effective. Well-designed interventions that support teachers and reinforce pedagogy can be especially effective. To be effective, the pedagogy needs to be evidence-based and aimed to specific student needs and delivered as a system-wide reform. The Tusome programme in Kenya is a good example of such an intervention. The report also highlights the importance of interventions that target teaching instruction by learning level rather than grade and identify interactive radio instruction as a potential pedagogic intervention which needs more rigorous testing.⁴⁷

Good Buy	Good Buy
<p>Intervention</p> <p>Structured lesson plans with linked materials and ongoing teacher monitoring and training</p> 	<p>Interventions</p> <p>Target teaching instruction by learning level, not grade (in or out of school)</p> 

Evidence from Pakistan showcases the effectiveness of teachers in improving student learning.

Evidence for this exists in a study by [Aslam et al. \(2019\)](#) from Punjab that found that competent and

Even in challenging and resource-constrained rural contexts in government schools in Punjab, value added estimates show improvement in student learning over the course of an academic year, with more improvements visible for those children whose teachers are more ‘competent’ i.e. those who have better subject matter knowledge – teacher content knowledge was the main quantifiable measure of teacher competence.

Aslam et al. (2019)

well-qualified teachers even in the presumably low-quality government schools can make a difference to a child’s academic progress. Given the differential progress for rich and poor students within schools, the study calls for targeted support towards the more disadvantaged students to ensure they learn and make progress in keeping with their peers.⁴⁸ More experimental studies funded under the FCDO RISE programme showcase the importance of teacher incentives and training as well as on how monitoring and encouragement to teachers can be critical. In a

study of private and public sector primary school teachers and their students in Pakistan, [Bau and Das \(2017\)](#) find teachers to be highly effective within public schools. The study not only confirms the importance of teachers in this low-income setting, but it also extends evidence on teacher contracts to

a largescale policy and provides evidence of a substantial misallocation between wages and productivity within the public sector in Pakistan.⁴⁹

Emerging evidence from Pakistan showcases examples that have the potential to be ‘smart buys’. Evidence from Pakistan highlights the need for improved curriculum and the need for improvement and the extreme necessity to focus on this in the Pakistani context, especially post Covid-19. A study by [Gul and Khilji](#) (2021) investigated Pakistan’s curriculum response to the pandemic. Using a more qualitative approach based on semi-structured interviews (10 curriculum experts, 35 teachers and 20 school heads) and an analysis of the 2018 National Curriculum Framework of Pakistan, the study reveals a top-down, predetermined curriculum that is unable to meet the needs of students especially given the pandemic. The curriculum was perceived by respondents to be rigid and unable to support learner needs at any time and even less so during situations such as the pandemic. It calls for the curriculum to be updated, made more context-specific and support independent learning.⁵⁰ Another study **measures the quality of teaching practices in primary schools by assessing the validity of a teacher classroom observation tool (Teach) in Punjab, Pakistan.**⁵¹ Given the clear potential for impact, this study provides **an opportunity to consider how a good buy (effective teaching) may be implemented and monitored in the Pakistani context.**

The Siyani Saheliyan programme provides an example of an intervention that targeted instruction by learning level rather than grade in South Punjab and is an example of a ‘good buy’. Given the large population of out-of-school children in the country, especially girls, alternatives to formal education such as those offered by this remedial learning programme need further research in the Pakistan-context. The findings of an [evaluation](#) of this programme demonstrated that participating girls made large progress in both English and Urdu literacy as well as in numeracy outcomes across all strands of the remedial learning programme.⁵²

Information provision, use of assessments and data systems

Summary of evidence on the use of assessments and data systems globally and in Pakistan

- There has been a growing interest in ascertaining the extent to which children are learning at the global, regional, national, and local levels.
- Several national and international assessments have been conducted to provide evidence on students' achievement levels.
- Whether this *use of assessment data* has an impact on student outcomes has been the subject of debate and whilst there are a few who argue that high-stakes exams can be detrimental and inappropriate, many studies find that accountability systems that use standardised tests to compare outcomes across schools and across students produce better student outcomes.
- In Pakistan, there have also been several endeavours to assess learning. However, there is no robust evidence on the relationship between assessments student learning outcomes.
- The strength of the global evidence is **medium**, with some evidence of a positive relationship between using assessments and learning outcomes.
- The strength of the Pakistani evidence base is very **weak**, with scant research exploring this issue. However, a very robust study on 'information provision' in the Pakistani context offers an example of a smart buy.
- There is a global recognition by education stakeholders that data and the use of education *data systems* are crucial for monitoring progress and for course correction purposes. Therefore, national governments and donor partners have directed increasing resources towards improving data systems.
- Global evidence suggests that open, timely, and accurate data are a critical requirement to support monitoring, accountability, and policy development in education.
- There is a particular need for reliable and effective data systems in South Asia, where inadequate data present a challenge to the education system.
- There is very limited, but positive, evidence from Pakistan that suggests that investing in improving data and data systems in the country has led to positive outcomes in the education sector.
- There is no direct evidence linking the use of data and data systems to improvement in education outcomes in Pakistan.
- The strength of global and Pakistan evidence is **weak**, with more research required in this area, and in particular on its relationship with improving student outcomes.

The GEEAP report (2020) has identified the provision of information to parents and children on the income-enhancing benefits of education, on the sources of funding available and on the quality of local schools as a 'smart buy'.⁵³ Evidence from several contexts across the globe has shown improvements in attendance and learning both to have been achieved at relatively low costs. Global evidence examples suggest that information can be shared through text messages and video, in parents' meetings or report cards. Many of the interventions given as examples in this report have been tested and delivered at scale at a low per-child cost.

'This is about providing specific and context-relevant information that shifts people's beliefs about the benefits of education or the quality of schooling, not general encouragement to consider education positively.'

GEEAP report (2020, p. 11).

Importantly, one of the examples of 'smart buys' cited in the report comes directly from the Pakistani context. The [Andrabi, Das and Khwaja](#) (2017) study examined the impact of providing school report cards with test scores to parents of students in both private and public schools. The provision of information on a child's learning progress was shown to improve test scores by 0.11 standard deviations, decreased private school fees by 17 percent and increased primary enrolment by 4.5 percent. This is one of the only examples of a large-scale intervention of its kind in Pakistan and critically finds that providing information relatively cheaply (at a cost of about USD 1/child) can significantly improve the welfare of students and parents in education systems by lowering the mark-up private schools charge and by improving quality. The authors do, however, note that these report cards had been constructed by the authors and therefore were not 'gamed' by the teachers or school heads.⁵⁴ As a result, this experiment does not offer predictions of 'what works' if the government scales up the programme.⁵⁵

Smart Buy

Intervention
Giving information
on the benefits,
costs, and quality
of education



Allocation and use of resources

Summary of evidence on allocation and use of financial resources globally and in Pakistan

- High-quality education systems require a finance system that is adequate, efficient, and equitable.
- Low-income countries have found a lack of sufficient resources to be a major constraint on their ability to deliver high-quality education to all.
- Resource use and allocation are particularly susceptible to political economy factors, such as corruption and vested interests.
- Research in Pakistan has shown that whilst overall spending on education has increased, this has not necessarily targeted those in most need and there remain high intra-district disparities in resourcing. There is no high-quality evidence relating improved resourcing to schooling and student learning.
- The strength of the global evidence is **medium**.
- The strength of the Pakistan-specific evidence is **weak but there is evidence of promising interventions**.

Global evidence suggests that directing resources to ‘standard’ inputs may not be the most cost-effective means of improving student learning, particularly if these inputs do not change a child’s daily educational experience. Many initiatives have been shown to improve enrolment (e.g. improved school amenities, provision of school meals) but these do not improve student outcomes. Similarly, provision of textbooks and IT resources have shown mixed results. Expanding instructional time through the provision of accompanying resources, has been shown to result in small improvements in student learning.

Good Buy	Bad Buy
Interventions Reduce travel times to schools 	Intervention Additional inputs alone, when other issues are not addressed 

However, global evidence suggests some avenues where directing resources may be more effective, one of which is **reducing travel times to schools (classified as a ‘good buy’ in the GEEAP report)**.⁵⁶ In contexts where access to education is low, improving children’s access to schooling can also improve their learning. Cost-effective examples of this include setting up community schools (though important to focus on sustainability of such schools). Transport facilities matter more in environments with strong cultural norms and financially constrained households: long distances to schools, high travel costs, cultural norms resistant to educating girls, unsafe journeys to and from school, are some of the huge challenges facing girls’ education in many contexts. The provision of safe transportation to and from schools can help alleviate parental concerns and financial pressures that may otherwise prevent children and especially girls from going to school. **In Pakistan’s context** there are two specific examples of evidence that showcase the importance of reducing travel times for improved access and improved learning. The first comes from an evaluation of the Sustainable Transition and Retention in Delivering Education STRIDE programme where focus group discussions with beneficiaries of transport facilities found that many would not have been able to continue their education without the reduction in travel times association with the provision of transport.⁵⁷ The evaluation of the Siyani Saheliyan programme in Southern Punjab also noted that safety concerns form an important, real and credible concern especially to girls’ schooling. As highlighted in this evaluation, the provision of transport to schools played an important role in mitigating these risks. Qualitative data collected from the SS programme indicated that many girls would not otherwise have schools or hubs had it not being for the provision of transport.⁵⁸

Another example of ‘good buys’ identified in the GEEAP report is the provision of targeted need-based financial resources e.g. conditional cash transfers. These **merit-based scholarships** have been shown, especially at the secondary level, to have large impacts in improving access and student learning. An evaluation of the Punjab Educational Endowment Fund (PEEF) by Ernst & Young has also found that the PEEF scholarship scheme in the Punjab has proven to be successful – it has reached more than 60,000 pupils since its inception in 2008 and expanded beyond Punjab to cover other provinces and regions of the country. The final impact assessment report on PEEF noted that the programme was

highly successful in reaching families facing multiple educational and social disadvantages and the scholarships made a real difference to students' lives.⁵⁹

The provision of additional inputs alone is unlikely to bring about the system-wide changes needed in Pakistan's education system and can potentially be 'bad buys' for example the provision of computers or laptops etc. alone without associated changes in teaching quality. However, nuancing the context with regards to whether something is a 'good buy' or not remains critically important. An example of this is provided by an impact evaluation of the Benazir Income Support Programme (BISP) which found that the provision of the conditional cash transfer component (CCT) of this programme continues to generate impacts in the proportion of girls and boys enrolled in school and a reduction in grade repetition for girls but significant barriers remain especially for older children (both boys and girls).⁶⁰

Role of non-state and private actors in providing education and improving learning

Summary of evidence on non-state and private providers globally and in Pakistan

- There is global evidence that some types of non-state providers can reach the more disadvantaged and more marginalised. However, this depends on the type of provider, and there are gaps in our understanding of the extent to which private schools are affordable, especially for the poor.
- The global evidence on PPPs is also mixed but in some contexts it has been shown to be a collaboration that has increased access, quality, and equity in education delivery.
- The limited evidence from Pakistan on private schools is indicative of better learning outcomes amongst pupils as compared to government schools. The evidence on whether private schools reach the poor or are accessed by both girls and boys equally is more mixed in the country. Even in environments where government schools exist and where parents are relatively poor, there is evidence of willingness to pay for private schooling.
- There is some (medium-high quality) evidence on PPPs in Pakistan that indicates that these types of arrangements can improve access as well as quality. There is also evidence of certain types of arrangements reaching the more disadvantaged.
- The strength of the global evidence is **high**.
- The strength of the Pakistan-specific evidence is **medium**.

The **global evidence on the role of non-state and private providers indicates that this type of education delivery is at least, if not more, effective at improving learning outcomes**, and often does so more cost-effectively, but this is caveated by the very low overall learning outcomes across education systems in both sectors, as well as by the extent to which private school provision is aligned with human rights.

Any systems approach to recovery in Pakistan also needs to be assessed alongside the existence of a large and thriving private sector in the education market (even in rural areas of the country). The large private sector was initially identified by academics but has consistently been documented by ASER data which show that almost 19% of all children aged 6-16 years were enrolled in private schools in 2021,⁶¹ and whilst this has declined from the 23.4% children reported in 2018,⁶² the sheer volume remains high. Data shows that even very low fee-paying private schools produce better results than the state sector, partially due to greater teacher accountability and improved teaching ability (as documented by several academics including [Aslam 2009](#) and [Andrabi et al. 2008](#)).⁶³ Evidence from Pakistan does highlight the **significance of private schools in reducing travel times** and parental willingness to pay for this choice. The study by [Pedro et al. \(2022\)](#) uses data from 112 rural markets with choice between private and government schools and finds that parents are willing to pay on average between 75% and 115% of the average annual private school fee for a 500 meter reduction in distance.⁶⁴ Therefore, the distance to school is a central determinant of school choice and the existence of a low fee private school market is of great value to households in the study sample. In the sample, the average distance between home and school for enrolled students 510 meters for girls and 680 meters for boys. A 500 meter increase in distance decreases the likelihood that a school is chosen by 11.1 percentage points for girls and by 6.0 percentage points for boys. This dual education system nevertheless creates

divisions in children's experience and outcomes, leaving many behind, and one of the ways increasingly suggested to tackle this is public-private partnerships in schools, including subsidized spots for many children.⁶⁵ These elements do not fit under just one Smart Buy but again highlight the need for a nuanced and multi-policy approach.

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