THE IMPLEMENTATION BARRIER:

UNLOCKING BRAZIL'S NEXT LEAP IN EDUCATION ACROSS LARGE-SCALE SYSTEMS

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POLICY QUESTION:

- What would it take for Brazil's subnational education systems to overcome barriers to the implementation of systemic reforms?

THE ISSUE:

An analysis of recent primary and lower secondary[1] learning outcomes across Brazil's nearly 6,000 subnational education systems – both states and municipalities – reveals that, despite considerable variation, some systems are achieving notably strong results.

When performance is disaggregated by system size (measured by the number of schools), however, a clear pattern emerges: high-performing systems are predominantly small or mid-sized. In contrast, large-scale systems – defined in this brief[2] as those spanning multiple administrative layers and requiring complex coordination among institutional actors to ensure policies reach the classroom – consistently struggle to achieve satisfactory levels of learning achievement.

The central argument of this brief[3] is that implementation challenges are a key factor behind these underwhelming outcomes. Consequently, the core objective of this work is to provide research-based recommendations, particularly for subnational system leaders, on how to address the implementation "barrier" in Brazil's large-scale education system reform efforts.

KEY PRINCIPLES AND POLICY RECOMMENDATIONS

Effective implementation hinges on the premises that guide their enactment. Drawing on international evidence, this brief emphasises three foundational principles to shape implementation efforts in Brazil's large-scale subnational systems:

- **Implementation is about promoting and realising change in practice – thus, it should be treated as process, not an event:** effective implementation is not a linear rollout, but an interactive process, shaped by those enacting the policy and their contexts.
- **Effective implementation involves shifting both beliefs and behaviours:** while efforts to "win hearts and minds" are necessary, they cannot overshadow the fact that lasting shifts in behaviour often stem from actually experiencing change, rather than from inspirational rhetoric alone.
- **Interaction across system levels is key:** success comes not from top-down mandates or bottom-up autonomy alone, but from building reciprocal relationships across system levels in a culture of shared responsibility.

These principles lay the groundwork for the following recommendations:

Recommendation 1: Build an "implementation infrastructure" grounded in four interconnected levers.

To make successful implementation possible, Brazil's large-scale subnational education systems should invest in an "**implementation infrastructure**" – not of bricks and mortar, but of people, routines, and tools. This infrastructure is needed to enable reform to travel across large, layered systems coherently and effectively. It is organised around four key levers:

- **Lever 1 - Motion and nuance from central leadership:** central offices are advised to go beyond policy design and actively drive change, engaging with the complexities of implementation. This means generating momentum, communicating consistently, adapting with nuance, and building trust.
- **Lever 2 - Traction and support from the regional tier:** regional bodies, institutions operating below the state or municipal level, grouping multiple schools according to territorial criteria, are often underutilised in Brazil and can become key agents of change. Greater in number, closer to practice, and locally grounded, this "middle tier" is uniquely suited to provide pedagogical support and contextualise policy at the local level.

- **Lever 3 - School principals as inward and outward anchors**: school principals play a pivotal role not only in translating reforms into classroom practice but, also, in channeling insights back up through the system. Strong leadership at the school level is essential to anchor the implementation process in both directions.
- **Lever 4 - Deep, rapid and formative monitoring systems**: monitoring benefits from moving beyond compliance toward tracking behavioural and pedagogical change, enabling rapid feedback that fuels adaptation.

Recommendation 2: Foster a problem-solving bureaucratic environment that enables continuous learning and adaptation throughout implementation.

The elements above cannot succeed if embedded in a rigid, compliance-driven bureaucracy. To support adaptive reform, system leaders should work to reshape bureaucratic environment toward flexibility, collaboration, and problem-solving. It can be helpful to:

- **Create space for local adaptation within policy design**: embed opportunities for regional and school-level actors to contextualise implementation, and make flexibility an explicit expectation.
- **Identify and learn from positive deviants**: seek out individuals or schools that succeed despite constraints. Showcasing these cases can normalise adaptive behaviours and help shift system norms.
- **Promote lateral learning across the system**: encourage peer-to-peer learning and cross-level dialogue through professional networks. Lateral connections foster shared ownership, reduce bureaucratic isolation, and accelerate collective improvement.

Recommendation 3: Partner strategically with non-state actors aligned with and committed to supporting government-led implementation efforts.

To address the complexity of educational implementation in Brazil's large-scale systems, governments often benefit from engaging strategically with external partners, including universities and NGOs:

- **To provide broad capacity support, where it may be limited;**
- **To help manage the complexity and pace of implementation amid daily operations;**
- **To provide continuity across political cycles and changes in political leadership.**

GOAL, AUDIENCE, AND STRUCTURE

This brief is guided by the question: **What would it take for Brazil's subnational education systems to overcome barriers to the implementation of systemic reforms?** To this end, it draws on both established and recent research from around the world. This includes a growing, though still limited, body of Brazilian literature on the topic, including my own book (Nogueira Filho, 2022) which explores key drivers behind some of Brazil's most successful education reforms in recent decades – particularly the cases of Ceará and Pernambuco.

This brief aims to shed light on research about what it takes to implement educational policy effectively at scale, introducing underused concepts and terminology into Brazil's national education discourse, and making the case for why implementation is crucial to success and should be taken more seriously than it currently is. Interpreting international evidence through the lens of Brazil's institutions and policy structures, it offers actionable insights for policymakers and other education stakeholders. Although the brief is practice-oriented, it does not propose step-by-step formulas. The goal here is to support policymakers in making more informed decisions, while acknowledging that only those directly involved in implementation can bridge the gap between "what works in general" and "what works here" (Williams, 2019).

The recommendations of the brief focus on large-scale education systems. Although there is no universally consolidated definition of "large-scale" in the educational literature, this brief draws on the work of Elmore (1996, 2016), Pritchett (2013, 2021), and the What Works Hub for Global Education (2024) to define education systems that span multiple administrative layers and require complex coordination among various institutional actors to ensure that policies reach and impact the classroom level. In Brazil's federative context – comprising 26 states, 1 federal district, and 5,570 municipalities, which are directly responsible for managing school systems – this definition applies well to entities with at least three operational layers: central, regional, and local. Currently, 40 subnational education systems in Brazil meet this criterion[4]. Together, they serve almost 15 million students, representing approximately 30% of the national student population in Basic Education (K-12)[5]. The focus on large-scale systems stems from the fact that while Brazil has shown that it can achieve excellence in smaller and mid-sized systems – Sobral being the most prominent (though not the only) example – the same cannot be said of the country's large-scale systems.

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[4] Source: Censo Escolar / Author's own research with the aid of artificial intelligence. The 40 systems are: **States**: Alagoas, Amazonas, Bahia, Ceará, Distrito Federal, Espírito Santo, Goiás, Maranhão, Mato Grosso, Minas Gerais, Pará, Paraíba, Paraná, Pernambuco, Piauí, Rio de Janeiro, Rio Grande do Norte, Rio Grande do Sul, Rondônia, Santa Catarina, São Paulo, Sergipe, Tocantins. **Municipalities**: Boa Vista, Belo Horizonte, Curitiba, Florianópolis, Fortaleza, João Pessoa, Macapá, Maceió, Manaus, Natal, Palmas, Recife, Rio de Janeiro, Salvador, São Luís, São Paulo, Teresina.
[5] Source: Censo Escolar / National School Census

The primary audience for this brief is subnational system leaders, particularly those operating within those large-scale education systems. Some of the recommendations have implications to smaller or medium-sized systems, the national government, or non-state agents, and the final section of the brief includes remarks directed to some of these audiences.

In addition to key definitions and considerations and an Introduction establishing why the issue of implementation warrants dedicated attention, the brief is organised into four main parts:

Part 1 provides context on Brazil's recent education trajectory and argues why implementation has become strategically important for advancing learning outcomes;

Part 2 outlines three principles to guide those interested in enacting successful implementation;

Part 3 synthesises key research findings in response to the brief's question and presents three recommendations, organised within an framework;

Part 4 closes with implications for secondary audiences.

KEY DEFINITIONS AND CONSIDERATIONS

1. How this brief approaches "policy implementation"

This brief adopts the What Works Hub for Global Education's (Oxford, 2024) definition of policy implementation as: *"The process of putting a plan into effect, including the actions, operational processes, and behavioural changes through which policies and programmes achieve their aims."* It also draws on McLaughlin & Ruby (2021) concept of implementation as throughput: the critical, often-overlooked set of processes that connect policy intent (inputs) to real-world outcomes (outputs).

The brief then emphasises what Mangla (2023) identifies as the more complex, less codifiable dimensions of implementation – those involved in system transformation and improving learning outcomes, rather than the routine execution of administrative tasks. This focus reflects Brazil's most pressing educational challenge today: achieving quality for all, with learning at its core. Importantly, implementation is not viewed as an isolated stage. Rather, this brief underscores the difficulties of turning design into practice, while recognising implementation's deep interdependence with the process of formulation and the political ecosystem.

2. What is meant by "systemic reform" and "effectiveness at scale"

In this brief, systemic reform is understood not as a collection of isolated interventions, but as a coherent strategy that seeks to align policies, practices, and institutional incentives around a shared vision of educational quality. This framing draws from Smith and O'Day's (1991) conception of policy coherence – where standards, assessments, and support systems reinforce one another – and Fullan's (2007; 2010) emphasis on efforts that change organisational culture and practices across all levels of the system.

Similarly, to be "effective at scale" is not simply replicating a successful model in one small site to multiple locations on a one-off basis. Instead, it follows Cynthia Coburn's (2003) four-dimensional framework:

- Depth – shifts in classroom practice and educator beliefs;
- Sustainability – long-term durability of changes;
- Spread – expansion across varied contexts;
- Shift in reform ownership – transfer of responsibility from external actors to local stakeholders.

This reconceptualised understanding of "scale" – centred not only on adoption or fidelity, but also on the conditions required for lasting reform – underpins the brief's approach.

Applying research from around the world to new contexts should be done with care; Brazil, as much as anywhere, has distinct features to take into account. In addition to the widely recognised (though not unique amongst developing countries) issue of deep inequality – both across and within states and municipalities – two key considerations are relevant:
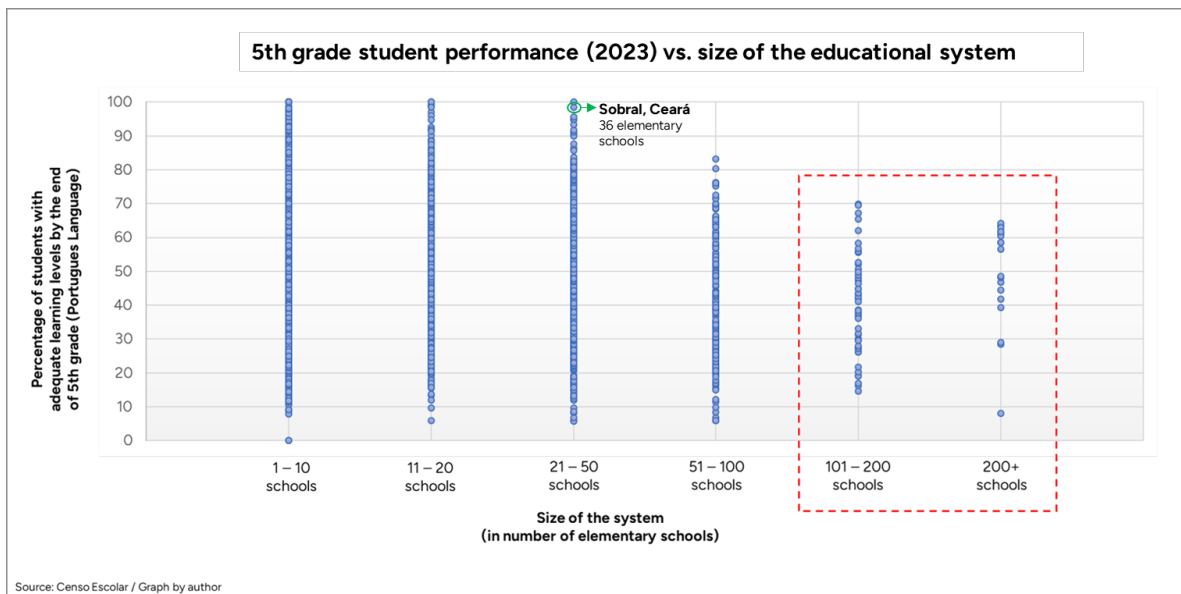
First, in Brazil's three-tiered federalism, the Union, states, and municipalities are constitutionally autonomous. The federal government cannot mandate policy execution by subnational governments, relying instead on cooperation and incentives, and this lack of coordination often results in fragmented policies and overlapping initiatives. Moreover, Brazil's post-1988 trajectory of policy decentralisation assigned numerous responsibilities to local governments without providing adequate support for the development of corresponding capacities, thereby weakening their ability to deliver — particularly in smaller municipalities, though not exclusively (Abrucio & Franzese, 2007). In this context, state capacity becomes a point of attention.

Second, Brazil's education system matured later than those in high-income countries. Universal access to primary education was only achieved in the late 1990s, with adequate levels of investment in public education only recently being realised. Given these factors, this brief takes a cautious approach to evidence, prioritising those from systems with commonalities with Brazil's developmental features (e.g., India, Kenya, Vietnam), and applying appropriate filters when drawing from systems in wealthier contexts that tend to be much longer-established (e.g., Ontario, the U.S. and the U.K.)

INTRODUCTION – WHY IMPLEMENTATION?

An analysis of 2023 primary and lower secondary learning outcomes across Brazil's 5,597 subnational education systems (spanning both states and municipalities) reveals that, while performance varies widely, some systems are achieving impressive results. Yet when outcomes are disaggregated by system size (measured by number of schools), a clear trend emerges: the strongest performers are predominantly small or mid-sized systems. Large-scale systems, by contrast, consistently struggle to deliver adequate levels of learning.

The graphs below, based on 5th and 9th-grade learning outcomes across all state and municipal systems in Brazil (each dot representing one system), as measured by the 2023 National Learning Assessement System (SAEB), illustrate this. Most of the systems with three-tiered structures – the primary focus of this brief – fall into the "over 100 schools" category, highlighted in red. For 5th grade, no system in this group surpasses the 70% proficiency mark. For 9th grade, the challenge is even greater: none get past 50%.

5th grade student performance (2023) vs. size of the educational system

Source: Censo Escolar / Graph by author

9th grade student performance (2023) vs. size of the educational system

Percentage of students with adequate learning levels by the end of 9th grade (Portugues Language)

Sobral, Ceará
24 middle schools

Size of the system (in number of middle schools)

1-10 schools | 11-20 schools | 21-50 schools | 51-100 schools | 101-200 schools | 200+ schools

Source: Censo Escolar / Graph by the author

How plausible is it to claim that implementation challenges help explain these results?

The importance of implementation for policy effectiveness has long been a theme in global qualitative research (e.g., Elmore, 1979; Pressman & Wildavsky, 1984; Spillane, Riser and Reimer, 2002; Hill & Hupe, 2009), and the same is true for education. Rich case studies – both classic and contemporary – have demonstrated that what ultimately drives results is translating ideas (policy) into action (practice) (e.g., McLaughlin, 1987; McLaughlin & Mitra, 2001; McLaughlin & Ruby, 2021; Mangla, 2023). In Brazil, Cock et. al (2022) has systematised a growing body of national research focused on education implementation, most of it qualitative. While still modest in scale compared to fields like health or social assistance, this literature is expanding (Batista et al., 2021) and echoes global findings that implementation matters.

Olson's (1965) collective action theory, though not specific to education, offers a compelling argument that implementation is a decisive variable precisely *in large scale settings*. The theory explains how individuals coordinate around shared interests, particularly when the benefits of action (like improved education) are public goods, accessible to all regardless of contribution. A core insight is that smaller groups find it easier to organise and sustain collective action than larger ones. This is primarily because:

- Incentives and accountability are more transparent – free-riding is more visible and socially costly;
- Trust and social norms are easier to build and sustain;
- Communication and coordination are simpler and more direct;
- Individuals feel a greater sense of personal impact, which strengthens commitment.

In contrast, larger groups face coordination difficulties: individual efforts seem negligible, free-riding becomes common, and cooperation often requires complex formal mechanisms – like bureaucratic oversight or incentives – that are costly and hard to implement. Olson also emphasises that in large-scale efforts, success often hinges on selective incentives or strong leadership and organisation to mobilise action – conditions that smaller, more cohesive groups may not need to the same extent.

Recent Brazil-focused studies add further evidence to Olson's theory. Ames & Guedes-Neto (2025), through the compilation of qualitative case studies of reform efforts in ten large-scale systems in different policy areas, including education, highlight the gaps between formulators and implementers as one key issue behind failure, rather than a lack of political will or funding. Conversely, my own work (Nogueira Filho, 2022) analysing standout large-scale reforms over the past two decades reinforces that the success of states like Ceará and Pernambuco is rooted not only in sound policy design but in sustained and intentional implementation.

Further compelling qualitative evidence comes from McKinsey's recent global report, "Spark and Sustain: How All of the World's School Systems Can Improve Learning at Scale". Based on surveys with over 400 educational leaders from large systems around the world, this assessment found that implementation challenges featured prominently among the reasons for policy failure, and that most systems struggle to turn improvements into actions at scale. Commonly cited issues included "limited implementation capacity", "insufficient pace and coordination", "resistance from stakeholders", and "adapting to changing circumstances".

While the centrality of implementation and its specific factors have always been documented and studied through first-hand practitioner accounts and qualitative research, it is only more recently that a growing body of quantitative studies has begun to develop more rigorous ways of measuring variation in implementation and its specific impacts on learning outcomes—particularly in large-scale settings. D'Agostino et al. (2024), for example, demonstrates through a mixed-methods study in Haiti that variation in outcomes from a literacy program can be explained by the quality of implementation, as measured by factors such as the frequency of instructional coaching visits, the dosage and uptake of the curriculum, school leadership behaviours, and the fluency and quality of lesson delivery.

A particularly striking conclusion emerging from this growing body of research is the consistent "voltage drop" (List, 2019) observed when education interventions lose effectiveness as they scale from small pilots to large-scale implementation. Research from the recently established What Works Hub for Global

Education at the University of Oxford – a research centre entirely focused on implementation in education – further provides quantitative evidence of the critical role implementation plays, especially at scale. Two studies are especially noteworthy:

- Angrist & Meager (2023), in *Implementation Matters: Generalising Treatment Effects in Education*, find that by "simply" improving take-up and fidelity of proven programs – such as Teaching at the Right Level (TaRL) – yields 4 to 8 times greater impact than developing entirely new interventions. In short, scaling effective existing solutions tends to yield greater impact than seeking novel interventions.
- Angrist & Dercon (2024), in *Understanding Gaps Between Education Policy and Practice*, examine pandemic-era responses across 50 countries and Early Childhood Development (ECD) programs in 35. For ECD, using a cross-national comparison of policy "intention" versus "reach", they reveal an average policy-practice gap of more than 50 percentage points, showing a relevant scope to connect policy to practice (see graph below).

Figure 3: Education Policy vs. Practice – ECD Programs Prior to COVID-19, by Region
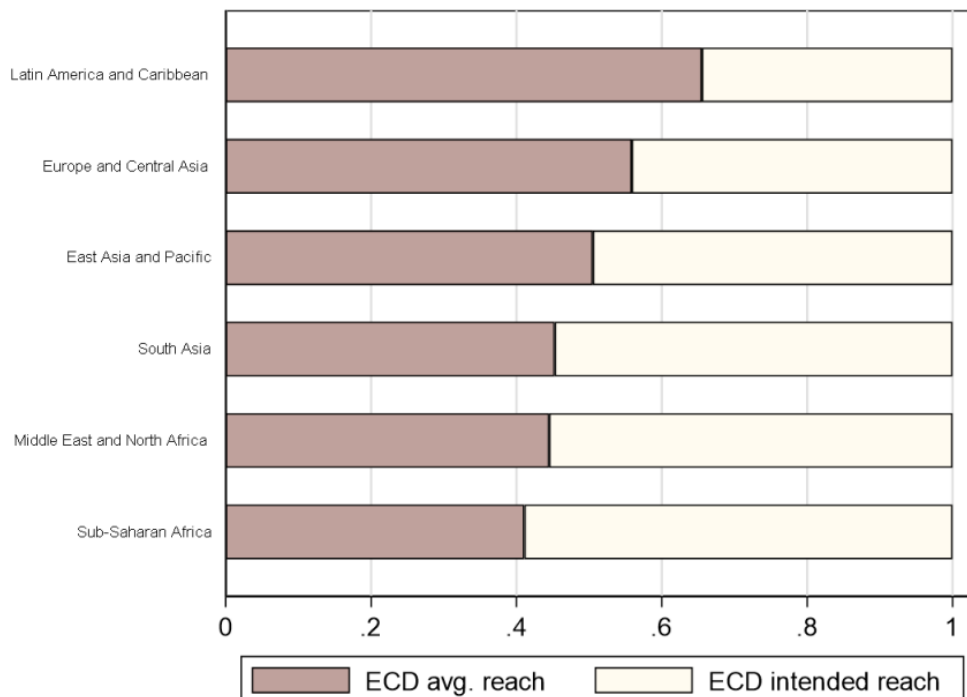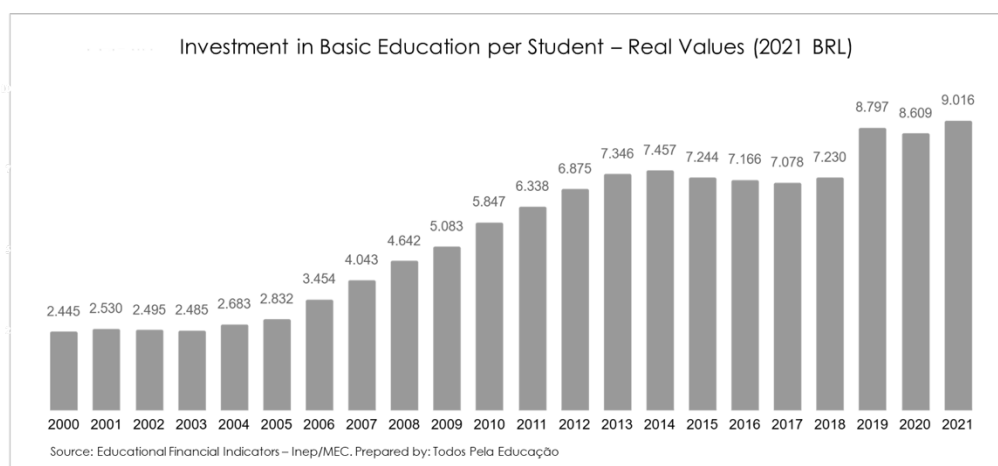
Together, this body of evidence delivers a clear message for Brazil: to meaningfully address the learning challenges – especially within large subnational systems – the country would benefit from focusing its energy on implementation. The good news is that the collective action challenges as described by Olson are not insurmountable. Ostrom's (1990) study on enduring institutions that successfully manage common-pool resources (or "the commons") reached a set of design principles that, although not specific to education, are relevant here. These include the presence of arrangements in which those affected by rules have a say in modifying those rules, monitoring mechanisms to develop accountability, and quick access to arenas of conflict-resolution. Strikingly, the eighth principle focused on common resources that are embedded in larger systems highlights the use of "multiple layers of nested enterprises", which will be echoed in the implementation infrastructure later in the brief.

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PART 1 – IMPLEMENTATION AS BRAZIL'S NEXT EDUCATIONAL LEAP

This brief argues that Brazil's recent educational trajectory has positioned implementation as the next major leap the country should take to address its learning challenges – particularly within large-scale systems. This is because in key areas such as financing, agenda-setting, and policy design capacity – all of which need to be in place for implementation to succeed – Brazil has made substantial progress. This section briefly examines each of these elements to support the argument that the time has come for implementation to take centre stage.

1.   Financing for basic education has advanced substantially

While Brazil still faces an uphill battle compared to OECD countries in terms of per capita investment in basic education – investing approximately one-third of the OECD average[6] – the country has made significant progress over the past three decades. This advancement has been driven by key political decisions at the national level, particularly the choice made during the drafting and approval of Brazil's Federal Constitution in 1988, mandating that the federal government, states, and municipalities allocate specific percentages of their tax revenues to education—respectively, 18%, 25%, and 25%. With the Brazil's gradual (though inconsistent) economic growth and a recent but already noticeable decline in early-stage enrollments due to rapid demographic shifts, Brazil has succeeded in more than tripling its per capita investment in education, as shown by the graph below.

Investment in Basic Education per Student – Real Values (2021 BRL)

Source: Educational Financial Indicators – Inep/MEC. Prepared by: Todos Pela Educação

Furthermore, Brazil has made significant progress in reducing funding inequalities across its subnational entities, largely due to FUNDEB – a redistributive national education financing mechanism first introduced

[6] Source: Education at a Glance (OECD)

in 1996 and now in its third iteration, which was updated and incorporated into the Constitution in 2020. Without FUNDEB, per capita investment disparities across regions would be as high as 100-fold. With the current version, this gap has been reduced to about threefold excluding municipalities whose investments are significant outliers. By the time the latest FUNDEB version is fully implemented in 2026, the mechanism is expected to have virtually eliminated critical underfunding – particularly in municipalities – enabling nearly all subnational governments to adequately structure the foundational components of an educational system (Todos Pela Educação, 2019).

2. Evidence-based topics have generally gained consensus among political actors, especially at the subnational level

While education continues to be a battleground for ideological disputes – particularly with the rise of the extreme right in Brazil and globally, which has brought education to the centre of so-called culture wars – there are signs in recent years that evidence-based themes are gaining traction among political decision-makers. Topics with robust research support, especially those shown to impact learning outcomes, are increasingly taking centre stage in education policy. Three key pieces of evidence support this claim.

The first comes from the National Congress and the content of the most recent National Education Plan (PNE) – a decennial law enacted in 2014 that sets targets across a broad range of educational indicators, both outcome- and process-related. While there is legitimate debate about the effectiveness of the PNE as an instrument of policy induction (which is not the focus here), a closer look at its content reveals that its core priorities align with what research identifies as critical to improving learning: teacher quality, school leadership, curriculum, extended school hours, and early childhood education enrollment, among others. The current drafting of a new ten-year plan, set to be approved by the end of 2025, further reinforces this trend. The initial version sent by the federal government to Congress earlier in 2024 delves even deeper into these high-impact topics. Based on the ongoing discussions, it appears unlikely that Congress will make major changes to the core structure of the proposal.

The second – and arguably stronger – piece of evidence comes from subnational governments, which are directly responsible for managing Brazil's education systems. A pattern has emerged in the education agendas of state governments, with the same topics being prioritised. An event[7] organised in April 2025 by Todos Pela Educação – a non-partisan advocacy organisation with which the author of this brief has been

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[7] Source: https://todospelaeducacao.org.br/noticias/encontro-anual-educacao-ja-2025-debate-prioridade-politica-e-agenda-de-fronteira/

affiliated for the past ten years – illustrated this. The event brought together eight governors from across the political spectrum, all of whom lead states that, comparably, have achieved better educational outcomes. While their political emphases and design approaches varied, they all focused on similar priorities: ensuring literacy at the right age, expanding technical and vocational education, increasing instructional time, improving teacher and school management quality, strengthening cooperation with municipalities, delivering quality early childhood education, and implementing cross-sectoral programs. Notably, albeit in less stronger fashion, these same themes are present even in states with less impressive results.

The third piece of evidence also comes from the work of Todos Pela Educação. In 2018, the organisation coordinated the development of policy recommendations for the federal government set to take office in 2019. The process brought together over 80 education specialists – ideologically diverse, and many politically affiliated. The final product, named the "Education Now" document, made a compelling case: evidence-based topics occupied the centre of the agenda, with considerable depth (Todos Pela Educação, 2018). All 85 specialists agreed to sign the final document. This collective endorsement – udpated and strenghtened in 2022 – across ideological lines demonstrates that, at least from a "topic" standpoint, an evidence-based education agenda has in many respects already been broadly set in Brazil.

3. Education policy design capacity has strongly progressed across national and subnational entitites

Over the past few decades, policy formulation capacity – particularly at the national level and within Brazil's large-scale education systems – has advanced significantly. What was a critical challenge in the 1990s and early 2000s, following a delayed effort to universalise primary education, has been largely overcome. Though not in strictly linear fashion, Brazil has made substantial progress at the national level over the past 30 years, with the federal government and Congress developing and refining major national policies that have, in turn, shaped how states and municipalities approach their own policy agendas.

In addition to the already mentioned FUNDEB, other examples include:

1. SAEB, a national learning assessment system that produces the IDEB quality indicator for nearly every school in the country;
2. Two National Education Plan (PNE) laws, each spanning 10 years, which set final and process-oriented targets and serve as anchors for State and Municipal Education Plans;
3. The creation of Brazil's first National Learning Standards (the "BNCC"), which – though imperfect – represented a milestone in aligning subnational curricula, and guiding teacher training, assessments, and the development of pedagogical resources.

More recently, the current federal administration has shown continued capacity to design sound, technically grounded policies, such as:

- A new National Literacy Policy, inspired by the successful Ceará model and firmly grounded in the latest evidence-based research;
- A well-structured national policy to extend the school day while advancing a more comprehensive school curriculum;
- An improved version [8] of the National High School Reform (originally launched in 2017), closely linked to the expansion of technical education;
- An ambitious set of new teacher policies, aimed at strengthening the profession and improving initial teacher training, including the development of a National Teacher Exam to support subnational systems in teacher selection.
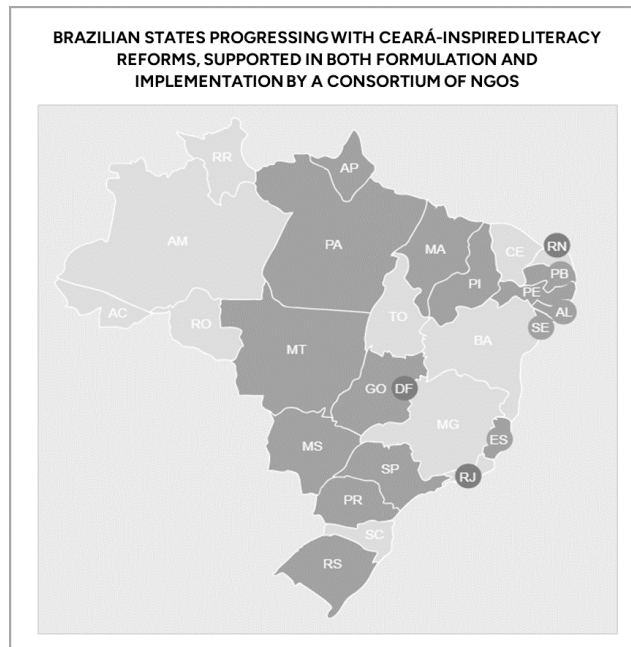
Significant progress has also been made by Brazil's large subnational systems, which possess a high degree of autonomy; they are not merely "implementers" of national policies, but are also responsible for formulating their own education policies. For instance, many states developed their own large-scale learning assessment systems in the 2000s and 2010s (Nogueira Filho, 2022). Their growing capacity is also the result of intentional learning from successful peers, such as Ceará's state-municipal cooperation model around literacy reform and Pernambuco's high school reform.

Over the last decade, these cases have informed policy design across several states (Todos Pela Educação, 2022; Nogueira Filho, 2022). From 2019 to 2023, for example, with support from an alliance of NGOs[9], 15 out of 26 states launched Ceará-inspired reforms to advance foundational literacy, following the same policy design framework (Associação Bem Comum, website), comprised of 9 parts:

1. Technical and political commitment
2. Cooperation and incentives
3. Monitoring and assessment
4. Teacher training
5. Structured teaching materials
6. Strengthening school management
7. Communication and engagement through dialogue
8. Participatory governance
9. Institutionalisation

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[8] Here it is important to note that National Congress also played a key role in improving the reform.
[9] The alliance is led by Instituto Natura, Fundação Lemann and Associação Bem Comum.

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BRAZILIAN STATES PROGRESSING WITH CEARÁ-INSPIRED LITERACY REFORMS, SUPPORTED IN BOTH FORMULATION AND IMPLEMENTATION BY A CONSORTIUM OF NGOS

There is still, of course, considerable room for improvement in policy formulation across Brazil's education systems. For example, when it comes to selecting school principals, over 60% of municipalities still do not incorporate technical criteria into the selection process; appointments are made purely based on political decisions (Instituto Brasileiro de Geografia e Estatística, 2016). That said, the foundations for improvement in policy design – across a range of key areas – have been laid, and the trend is positive. This is why, in short, this brief argues that the next leap lies in improving the quality of implementation, even when it comes to sustaining the other three areas of progress outlined in this section, in particular, policy-design advancements.

The reason is simple: weak implementation not only undermines the impact of recent, evidence-based advances in policy design, but it can also discredit them. As Stannard and Huxford (2007) warn, failures of implementation can over time undermine confidence in the design itself. In other words, without robust implementation in large-scale settings, Brazil risks squandering its progress. The next section considers how this might be avoided.

PART 2 – THREE KEY PRINCIPLES FOR IMPLEMENTATION IN EDUCATION

A broad body of qualitative research – across settings as diverse as India, Kenya, the US, the UK, Canada, and Vietnam – as well as the first-hand experiences of practitioners and scholars have emphasised that the principles behind implementation matter, and that successful cases tend to share a few common features. Three stand out as particularly relevant for Brazil:

Principle 1: Implementation is about promoting and realising *change in practice*, and it should thus be treated as process, not an event

The first and most fundamental principle leaders should grasp is understanding what successful implementation entails: a change in practice. If change is the ultimate goal of implementation, then successful implementation is to be treated as an ongoing process, not a one-off event. Many reform efforts falter by treating implementation as a linear sequence – plan, execute (implement), evaluate – rather than as a dynamic, iterative process shaped by the people who enact policy and the complex contexts in which they operate.

Several authors have described this different perspective. Majone and Wildavsky (1979) described this as **"interactive implementation":** the process itself modifies both the policy and its objectives. Supovitz (2008) refers to this as **"iterative refraction":** reforms bend and adjust as they work their way through schools. McLaughlin and Ruby (2021), highlighting the cases of Qatar, Singapore, and Hong Kong, describe how this iterative process – sometimes in reactive and not entirely intentional ways, involving not only policymakers but also stakeholders such as parents – reshaped policies, with success relying on local adaptation and negotiation.

Elmore (1980) calls for **"backward mapping"** – starting from the classroom and working up to policy. Fullan (2016), based on decades of supporting and researching large scale reform efforts across several educational jurisdictions around the world, particularly in Ontario, Canada, takes the argument further: *"You create and discover clarity during implementation if the latter is positioned as a learning process. Striving for greater clarity and specificity in implementation is essential if one is to assess and obtain the benefits of quality innovations."* He later adds: *"Effective change processes shape and re-shape quality ideas as they build capacity and ownership over time"*.

But there is more to the principle. By striking a parallel with a concept from management literature called the "implementation dip", Fullan (2009) adapts the idea to the education world to argue that reforms often go through a "bumpy start" before outcomes improve. As Fullan, argues, this is natural, even necessary, emphasing the steep learning curve brought by new skills and understanding.

Four key implications for large-scale systems in Brazil arise. First, that reforms should be designed with **built-in flexibility**. Leaders should expect divergence, feedback, and iteration – not view them as threats to policy integrity. Second, without anticipating and managing this phase, leaders may abandon initiatives prematurely, assuming simply that they did not work. Third, as Fullan (2009) emphasises, leaders should recognise that for those implementers at the local level, the costs of change are immediate and tangible, while the benefits can feel distant and abstract. This can be an uncomfortable process, and the role of leaders is to *"help people get through the dip"*. Fourth, effective implementation takes time and continuity of effort is essential to give systemic reforms the chance to fully take root. Here, Fullan (2016) emphasises the need for clear and realist timelines that account for this factor.

Principle 2: Effective implementation involves shifting both beliefs and behaviours

Educational change requires shifting what people do – a change in practice, outlined above – which is connected to what practitioners know and believe in.

Elmore (2016) summarises this as such: *"When we are asking teachers and school leaders to do things they don't (yet) know how to do, we are not asking them to implement – we are asking them to learn, think, and become different people. The casual way policy-focused people use the term [implementation] obscures this critical distinction. The knowledge of what to do has to reside not in the mind of some distant policy wonk or academic, but in the deep muscle-memory of the actual doer"*.

But how does such change begin? Without discarding the notion that, ultimately, beliefs shape practice, some proponents have emphasised, based on their own experiences with systemic reforms, that stimulating behavioural changes can act as a path for kickstarting changes in beliefs. According to John Stannard, architect and lead-implementer of the UK's National Literacy Strategy[10] in the late 1990s, who writes: *"Explaining the theory to everyone was not the most practical first step. A more effective approach was to help teachers change what they do in classrooms... Behaviour shapes beliefs"*.

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[10] The UK's National Literacy Strategy, launched in 1998, aimed to raise literacy standards in primary schools through a structured daily literacy hour and targeted teacher training, ultimately leading to significant early improvements in reading and writing outcomes. Between 1998 and 2006, following the introduction of the National Literacy Strategy, the proportion of pupils in England achieving level 4+ in English rose by 14 percentage points, level 5 attainment nearly doubled from 17% to 32%, and reading standards improved by 12 points—with notable progress in narrowing the gender gap and bringing schools close to national targets (Stannard and Huxley, 2007)

Michael Barber, reflecting on the same reform, agrees that usually it is not beliefs that drive behaviours, but rather the other way around, with people experiencing change and then revising their beliefs (Stannard & Huxley, 2007). Fullan captures the idea well: *"Don't overload people with vision and urgency. Instead, give them new experiences – especially alongside trusted peers – and build from there."* (Fullan 2009). *"Ultimately it comes down to what is going on in one's head, but the stimulation comes from new experiences that give us something new to think and learn about."* (Fullan 2016)

King, S., Betts, K., Rodd, A., & Neupane, S. (2022) and King, S., & Gove, A. (2024) provide field-based evidence to support this argument. Drawing on research from early grade reading programs in Nepal and Tanzania and qualitative studies in rural Tanzanian schools, both works find that the success of reforms hinges on changing educator behaviours, not just policies or resources. They show that lasting improvements require more than inspiring messages or formal policy mandates – change often emerges when educators and schools experience new ways of working, see them modeled, and find that social norms and everyday practices support rather than resist them.

Such evidence can come as a challenge to an assumption, frequently voiced in Brazil, that "winning hearts and minds" needs to happen at the very outset of implementation or little progress will be possible. Rather than a definitive prescription on order, what the quotes above highlight is that experiencing change can precede buy-in, or at the very least, that these two can reinforce each other. In any case, as it will be later detailed, gaining support should be seen as something to be cultivated throughout the process, with implementation efforts looking beyond questions of fidelity or initial uptake. If the goal is to change behaviours and beliefs, it is not enough to simply "deliver" the reform (an often-used term in Brazilian discourse) and expect lasting results.

Principle 3: Quality of interaction across the system is the key

In large systems, what separates successful reform from failure is not where authority lies – but how different levels of the system **interact.** As Mehta (2013) writes, instead of being about where the power lies – in the top or the bottom – the importance is in how both are interacting. Elmore (1980) and McLaughlin & Ruby (2021) similarly emphasise reciprocity and discretion in hierarchical systems; central authorities **guide and listen**; local actors **adapt and align.**

The UK's National Literacy Strategy illustrates this principle well. Stannard and Huxford (2007) argue that while pressure from the top drove early compliance, success came when support and flexibility followed, with loads of interaction. They caution: *"Autonomy without direction creates drift. But prescription without flexibility fosters resentment."* Strong systems build cultures of mutual accountability and continuous dialogue across levels.

The implications of this premise for implementation are substantial. First, it challenges the conventional debate over whether reform should be "top-down" or "bottom-up," suggesting that such dichotomy has limited relevance. Second – and particularly pertinent to large-scale systems – it highlights that effective implementation largely depends on the ability of reform leaders to connect different parts of the system. For this to happen, a supporting structure – referred to here as an "infrastructure for implementation" – is necessary.

PART 3 – POLICY RECOMMENDATIONS

Having established implementation as one of Brazil's top educational challenges – if not the most pressing – we now turn to a set of recommendations to strengthen implementation across large-scale subnational systems in Brazil, aligned with the principles outlined above.

These recommendations are grounded in a growing body of education implementation research from both international and Brazilian contexts. However, due consideration should be given to the fact that implementation is highly context-dependent, and often challenging to observe and measure in rigorous ways. As the field of implementation in education undergoes a transition from an "art" to a "science", in the words of Clare Leaver[11], the evidence is more consolidated, persuasive, and applicable to the Brazilian context for some topics than others, which will be noted in this section accordingly.

The recommendations, aimed at the leadership of subnational educational systems, are:

- **Build an "implementation infrastructure**" grounded on four interconnected levers to allow solid implementation to flourish.
- **Foster a problem-solving bureaucratic environment** that enables continuous learning and adaptation throughout implementation.
- **Partner strategically with non-state actors** aligned with and committed to government-led implementation efforts.

These are not standalone actions. Their power lies in being pursued **together and deliberately,** as part of an integrated effort. The **synthesis-framework** illustrated the importance of advancing the three recommendations in a coherent, connected manner.

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[11] Source: https://www.youtube.com/watch?v=vRxUbz6TwZk

How can Brazil's large-scale subnational education systems improve the implementation of systemic reforms?

KEY PRINCIPLES

Principle 1: Implementation is about promoting and realising change in practice, and it should thus be treated as process, not an event.

Principle 2: Effective implementation involves shifting both beliefs and behaviours.

Principle 3: Quality of interaction across the system is the key.

RECOMENDATION #2

Foster a problem-solving bureaucratic environment that enables continuous learning and adaptation throughout implementation.

1. Create space for local adaptation within policy design;
2. Identify and learn from positive deviants;
3. Promote lateral conversations across the system.
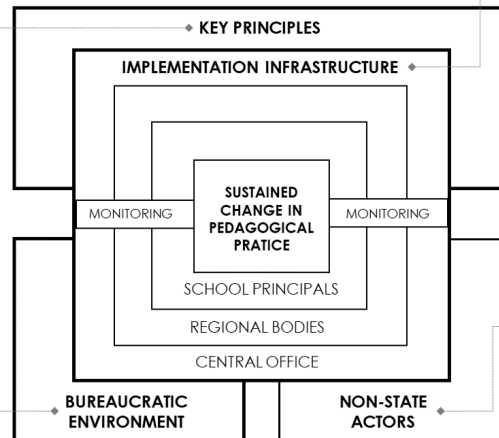
RECOMENDATION #1

Build an implementation infrastructure grounded on four interconnected levers to allow solid implementation to flourish.

1. Motion and nuance from **central office**
To set direction and lead change

2. Traction and support from **regional bodies**
To drive adaptation and linkage

3. Inward and outward anchoring by **school principals**
To sustain focus and provide upwards feedback

4. Deep, rapid and formative **monitoring-system**
To fuel constant adjustment

RECOMENDATION #3

Partner strategically with non-state actors aligned with and committed to supporting government-led implementation efforts.

1. To provide broad capacity support, where it may be limited;
2. To help manage the complexity and pace of implementation amid daily operations;
3. To increase chances of continuity across political cycles and changes in political leadership.

RECOMMENDATION #1: Build an "implementation infrastructure" grounded on four interconnected levers

If we accept that implementation is adaptive, behavioural, and interaction-dependent – and ultimately about enacting change – then the question becomes: what enables this in practice? This brief proposes investing in a "**implementation infrastructure"** – not physical, but organisational. This includes the people, routines, and mechanisms that hold reforms together and help them travel across a large, layered system. It's about making the messy work of implementation **more visible, supported, and coherent.**

The infrastructure rests on four "implementation levers" – each tied by a system level (or element) and specific implementation mission: each will be explored in turn.

Implementation levers	Core implementation missions
1. Motion and nuance from central office	Set direction and lead change
2. Traction and support from regional bodies	Drive adaptation and linkage
3. Inward and outward anchoring by school principals	Sustain focus and upwards feedback
4. Depth and learning through monitoring systems	Fuel constant adjustment

Implementation lever 1: Motion and nuance from the central office

In many Brazilian systems, central offices see themselves primarily as designers of policy, not implementers. Yet the research and the experience of practitioners suggests that **what central leadership does – or fails to do – when it comes to implementation shapes the fate of any policy**. Put it in other words, for implementation to work, top leadership has to roll up its sleeves and embrace seeking to understanding and overcome downstream challenges.

In their account of the implementation UK's National Literacy Strategy reform in the late nineties, Stannard and Huxley (2007) call for the importance of top leadership to focus on core messages that can be easily understood, creating a shared language: *"Consistency and fidelity to the plan had to be underwritten by a few clear central messages. Strong leadership from the centre was essential (...) its power lay in the rapid introduction of a shared language and practices that most teachers recognized and were prepared to adopt."*

But messaging alone is insufficient. Michael Fullan's book "Motion Leadership: The Skinny on Becoming Change Savvy (2009)" synthesises decades of experience leading large-scale educational change, combining insights from both educational and management literature – an intersection often underexplored in Brazil despite schools being, fundamentally, organisations of people. The book focuses on the concept of motion: if implementing "something" is fundamentally about changing "something" then the central challenge for system leaders is to break inertia – a condition that afflicts most education systems, especially at scale. As Fullan puts it, the problems systems face take many forms, but they all share a common trait: they are stuck, and the first mission of a leader is to get movement started in the right direction.

Fullan's argument is that while successful reform depends on many actors and layers of interaction, there are certain things that only top leadership can do for implementation to take hold. Informed by the real-life experiences of educational leaders in different settings, he outlines key leadership priorities when it comes to implementation, such as:

- Navigating inertia and seizing momentum early;
- Understanding the impact of first impressions and strategies for making them count;
- Managing the reality that gains are often delayed;
- Communicating consistently throughout – not just before – implementation;
- Balancing authority with participation and fostering purposeful collaboration;
- And above all, building trust as the foundation of lasting change.

Fullan deepens this argument in a later book, "Nuance: Why Some Leaders Succeed and Others Fail (2019)". While the focus is largely on leaders operating at the middle and local levels, much of its relevance extends to system leaders at the top. His core thesis is that not all leadership problems are technical – many, in fact, require judgment, empathy, contextual awareness, and the ability to mobilise others through shared understanding and joint problem-solving. Nuanced leaders, Fullan argues, are not fixated on surface-level solutions, but rather skilled at navigating complexity, drawing on local insight, adapting principles to context and accepting that progress means joint determination and learning with the group.

In short: solid implementation begins with top leadership that can generate motion and exercise nuance. While some aspects of this work may seem familiar from leadership literature, Fullan's contribution is to show – through practice and evidence – what it actually takes to lead large and complex education systems through implementation.

Useful ways forward

Applying these ideas to the Brazilian context, analyses by Nogueira Filho (2022) and Corrêa (2025) of successful reform efforts in Ceará, Pernambuco, and Espírito Santo show a few ways in which effective central leadership can be translated into realities of reform:

- Invest political capital in depoliticising the implementation chain – especially by establishing rigorous selection processes for regional office leadership and school principals;
- Leaders should actively celebrate short-term wins across the network, while quickly redirecting attention back to the ongoing work;

- Secretariats should engage governors to remain close to the ground and play a role in mobilising teachers and school principals throughout the reform process;
- A strategic mindset at the top that is not afraid of continuously iterating and refining the core elements of the reform.

Yet, as critical as leadership from the top is, it is only one part of the equation. On its own, it is not enough. To truly build an implementation infrastructure across a system, leadership should extend to other levels – especially the often-overlooked middle tier. That brings us to Lever #2.

Implementation lever 2: Traction and support from the regional bodies

If quality interaction is the key to successful implementation in large-scale systems, then something should anchor and enable that interaction. This brief argues that a key engine of interaction lies in the middle tier – what in Brazil is often referred to as *coordenações regionais* (regional coordinations) or *órgãos regionais* (regional bodies). Not to be confused with Brazil's official regional divisions, these are local institutions operating below the state or municipal level, grouping multiple schools according to territorial criteria.

Qualitative assessments of implementation efforts in recent years, based on a number of settings internationally, have identified regional bodies as a key lever in the enactment of systemic education reforms. Drawing on Ontario's (Canada) vast educational system and its significant improvements in learning outcomes over the past few decades[12], Hargreaves (2024) advocates for repositioning the middle tier – not as a mere compromise zone, but as the central nervous system of the implementation process. McLaughlin and Ruby's (2021) provides a compilation of successful implementation cases from countries including the UK, Hong Kong, Vietnam, Kazakhstan, Singapore, and Qatar. In nearly all of them, the middle tier is pivotal, with Vietnam standing out. Despite its vase size and modest resources, the country built a system with a professionalised "middle layer" responsible for sustaining quick and robust feedback loops, helping to translate the policy down from the ministry into schools while also communicating frontline issues to higher leadership.

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[12] Over the past two decades, Ontario's education system – comprising approximately 5,000 publicly funded schools – has demonstrated consistent improvement in student outcomes. For instance, the proportion of Grade 6 students meeting or exceeding reading standards increased from approximately 77% in the early 2000s to 84% in 2023. High school graduation rates have also risen significantly, climbing from approximately 70% in the early 2000s to over 84% in 2023. These sustained gains reflect focused investments and reforms in curriculum, assessment, and student support, contributing to a more equitable and higher-performing education system (Source: Ontario Ministry of Education. (2023). *School Board Progress Reports: Graduation Rates*. Retrieved from https://www.app.edu.gov.on.ca/eng/bpr/allBoards.asp?chosenIndicator=11)

In their 2023 report, part of a larger research effort on the topic, Tournier, Chimier, and Jones conducted a comprehensive review of the middle tier in five diverse jurisdictions – Delhi (India), Jordan, Rwanda, Shanghai (China), and Wales (United Kingdom). Their findings offer three key contributions:

1. **A clear definition**: *"Middle-tier actors are intermediaries in education systems, responsible for implementing and monitoring national policy at the local level. When empowered, they can drive system-wide improvement by 'leading from the middle.'"*

2. **A critique of prevailing practice in low and middle-income countries:** *"In [these] countries, middle-tier staff are typically seen as compliance monitors – not as instructional leaders. As a result, their role in improving student outcomes remains poorly understood and vastly underutilized."*

3. **A call to reframe:** *"It takes a whole education system to support its front-line workers. This requires shifting attention from teachers alone to the broader education workforce – including middle-tier staff, who are increasingly recognised as agents who can make or break a reform."*

Other recent works echo this conclusion. In his already cited 2024 book "Leadership from the Middle", based on research with educational leaders in the United States, United Kingdom, and Canada, Andy Hargreaves makes a compelling case for this often-overlooked layer. When complexity becomes too great for top-down command to handle – an inevitability in large-scale reform – he argues there needs to be a shift in focus to leaders who are *"greater in number, closer to the action, more in tune with local circumstances, and more able to mobilise people they know and trust."*. Greater in number, closer to practice, more locally grounded, and more trusted – this is the unique value proposition of the middle tier. In large-scale systems, it is the only layer capable of generating the traction and support needed to translate policy from the central office into real change at the school level.

According to Fullan (2016), the middle tier transcends the top-down/bottom-up dilemma, both approaches with clear shortcomings, and breaks the inertia that is in the nature of social systems. The approach to the middle tier matters, too. For Hargreaves, too often education systems treat this layer as a conduit: a mechanism to relay decisions from the top to the bottom. Hargreaves pushes back, by claiming that the middle tier is not just a bridge, transmitting ideas and decisions in one direction, but rather the backbone of transformation.

Although this topic is still underexplored in Brazilian educational discourse, local reform experiences point in the same direction. Goiás, one of Brazil's top-performing states in middle and high school education, has institutionalised the role of regional bodies in supporting school improvement through pedagogical management, coordination, and the integration of the education secretariat programs with schools under their responsibility (Secretaria de Estado de Educação de Goiás, 2024).

The case of Ceará reinforces this. As the author of this brief's research has shown (Nogueira Filho, 2022), its success in scaling literacy reform across the state was in large part due to investments in the middle tier. Regional offices played a central role in contextualising policy, maintaining communication, and providing support to schools that the central office is unable to maintain. As then-Secretary of Education, Maurício Holanda, explained: *"To make it work, you need frequent communication, with constant fact-checking and a personal component that the central office can't deliver. In the eyes of local communities, the face of the Secretariat is the regional office. That face must be empowered to solve problems and embody the vision of the central team. That's why it needs autonomy – and why merit-based selection and protection from local political interference are so important."*

Bonamino et al. (2019), in their qualitative analysis of Ceará's reform, captures how middle-tier managers (known as "municipal managers", or MMs) came to be seen by frontline professionals as key pieces to the program's success, sustaining aligment between school management, teachers, and the guidelines of the program. These MMs were recognised by both superiors and subordinates not solely because of their position in the structure, but from their pedagogical role identifying alternatives for individual learning challenges, analysing results with the school team, and guiding teachers based on these diagnosis.

These examples – both international and from Brazil – demonstrate that the middle tier, when trusted and well-equipped, is not merely a relay station; it is the engine room of reform, ensuring that policies reach schools with the strength needed to drive real change.

Useful ways forward

So, what does the middle tier do when it's working well? Apart from making sure that they are well-trained and rigorously selected without political interference, policymakers can draw lessons from the 2023 report from Tournier, Chimier, and Jones identifying the five core functions that the middle tier should enact:

1. Supporting school and teaching improvement;
2. Promoting professional collaboration within and across schools;
3. Brokering knowledge and encouraging evidence use;
4. Providing local instructional direction and aligning with central strategy;
5. Testing innovations and scaling promising practices.

A quote from a district officer in Delhi captures the shift: *"Before, we were just grumbling – saying this or that wasn't happening. Now we're putting our heads together to figure out how to solve things."* From passive compliance to active problem-solving – that's the lever. Next, the brief will explore the next lever of implementation: school principals.

Implementation lever 3: School principals as inward and outward anchors at the school level

The third "human resource" element in the implementation infrastructure proposed by this brief is the school principal. While this may seem intuitive, it is frequently overlooked in large-scale reform efforts. The argument here stems from a deeper understanding of the unique role school principals play – both inwardly, within their own schools, and outwardly, as system-level actors – when it comes to driving change at scale.

The importance of school leadership in shaping school performance is well-established in the international literature. Sammons (1999), in a major review of the school effectiveness literature, concludes that virtually all studies at the time had identified leadership at both the primary and secondary levels as a crucial factor for school effectiveness. Fullan (2000) claims that in his experience, there has been no improving school that does not count with a principal who is good at leading improvement.

Research in the Brazilian context reinforces this perspective. Oliveira and Paes (2018) suggest an impact of school leadership on learning outcomes, based on measures of perception of teachers about their school principais, and their form of access to the job. Leaver et al. (2019), by developing a management index encompassing 15,000 schools across 65 countries, along with a separate index covering nearly all public schools in Brazil, found a strong, positive correlation between the quality of school management and student learning outcomes. This understanding gave rise to the now widely recognised concept of "principal as instructional leader" – a model in which the principal is expected not only to manage operations, but also to directly support teaching and learning (Fink & Resnik, 2001; Lunenberg, 2010). As summarised by Shaked (2024), referencing Hallinger et al. (2020), Neumerski et al. (2018), and Walker & Qian (2022), the principal as instructional leader is involved in missions such as curriculum, teacher development, and fostering a school climate and mission that leads to effective teaching and learning.

But as Fullan (2002) argues, when it comes to the implementation of systemic reforms, this instructional focus – while necessary – is insufficient on its own, as this instructional focus needs to be immersed in a larger set of characteristics, which he calls '*the principal as leader in a culture of change*". Fullan (2016) takes it one step further and clearly outlines the shift: "*(…) principals need to become "system players" – school leaders who contribute to and benefit from the increased performance of other schools in the district and of the system as a whole. (...) Many jurisdictions are realizing that in the same way that within the school the group has to be used to change the group, the same approach has to be used when it comes to district-wide and statewide reform: the savvy of the group – the schools in concert – has to be cultivated*

and leveraged in order to improve the system as a whole." Hattie (2015) reinforces this point by emphasising that if the school is the unit of analysis, then large-scale transformation benefits from being approached not merely as a "school system," but as a "system of schools" – each with a principal at the helm.

Vietnam's education reform again exemplifies this expanded, dual role of school principals (McLaughlin & Ruby 2021). There, principals are viewed as the interface between schools and the broader system, accountable for local implementation and responsible for communicating realities on the ground. They are expected to work closely with district and provincial authorities while also providing honest feedback about implementation challenges. In short, their gaze should both be inward – focused on their school community – and outward, toward system-wide coordination and feedback: that is the lever.

The UK's National Literacy Strategy reflects a similar insight. As Stannard and Huxley (2007) recount, over the first year it became clear that a strong focus on teacher training was leaving many head teachers behind. A recognition of the role of head teachers strengthened the program, while they made sure they had the most recent literacy priorities and expectations and were also capable of enhancing data systems and data literacy, to enable schools to better tailor student support.

Useful ways forward

To advance the concept of school principals as both inward and outward anchors of system-wide reform, system leaders would benefit from advancing in two directions. The first is to professionalise the selection process of school principals by removing – or significantly reducing – the political influence in these decisions. As previously noted, many educational systems in Brazil lack technical criteria for selecting and appointing principals, resulting in purely political decisions made by central offices, and often influenced by mayors or governors. While this phenomenon is more common in small or medium-sized systems, even larger systems – the focus of this brief – are not entirely immune. This change is crucial not only to address the initial challenge of positioning principals as inward anchors of reform but also to enable the second objective: establishing principals as active "system players."

The second is to clearly define and support principals in this dual role. The successful experience of Pernambuco, Brazil, over the last decade offers an example on how to approach the matter (Nogueira Filho, 2022). Then-Secretary of Education Fred Amancio reflects: "*If you really want to improve results and how schools function, teachers must be involved. But in our case, the key figure – the one who made it all click – was the school principal. That's why we changed our strategy for selecting principals. We bet on the idea that the principal would become our spokesperson, bringing the school team closer*

to departmental goals. The principal was the link—the key factor connecting Secretariat strategy to the school. I personally held performance target meetings with all school principals by region and made a point of sharing the network's progress so they would feel part of the broader effort. Then, I'd walk them through the strategy to improve outcomes."

The widely known case of Sobral, Ceará, reinforces this point. As Camila Pereira, head of the non-profit Global School Leaders, recently noted regarding the municipality's approach, principals there are viewed – both by the central office and themselves – as "extensions of the central office". This alignment fosters a shared sense of purpose, leading to coherence, effectiveness, and successful implementation. In short, principals who feel integrated into the system and are treated as such become amplifiers of system-wide strategy – not just local executors of policy, and their leadership drives quality interactions across all system levels. However, purposeful interaction depends not only on people but also on good information, which will, be explored next.

Implementation lever 4: Deep, rapid, and formative monitoring systems to fuel constant adaptation

Monitoring has long played a role in the global discourse on implementation, and Brazil is no exception. It is not uncommon to hear policymakers refer to "monitoring" as part of their work, often citing it as the primary tool to ensure effective implementation. While there is general consensus on what monitoring educational policy entails – a mechanism of accompaniment aimed at generating information or data to inform policy development – in practice, it often takes the form of a top-down process that primarily feeds information to those in central offices, and typically at a slow pace. Moreover, it is commonly carried out with a checklist mentality, focusing on verifying fidelity and policy uptake. But to support large-scale reform and the implementation infrastructure, what is monitored and why is what can truly make a difference.

The concept of "deep monitoring" is rooted in Cynthia Coburn's (2003) framework for taking reforms to scale. As discussed earlier in this brief, one of her four dimensions of scale is depth – the extent to which reforms bring about fundamental and consequential change in classroom practice. According to Coburn, this means going beyond standard indicators of take-up and fidelity, or the presence or absence surface-level structures or procedures — like materials, classroom setups, or specific activities — to instead monitor shifts in teaching behaviours, mindsets, and pedagogical practices. In other words, this means rethinking traditional monitoring systems to assess whether teachers are genuinely shifting how they teach and engage students. The question is: how to do it?

While challenging, there are viable approaches. Coburn (2003) points to research from the QUASAR project, for example, which used classroom video analysis to study cognitive demands of math tasks in real time. Datnow and Yonezawa (1999) combined ethnographic field notes with structured observations to assess not only the presence of new practices but the quality of teacher-student interactions and enactment of pedagogical principles. These efforts suggest that capturing depth often requires a blend of observations, interviews, teacher logs, and samples of student work, going well beyond surveys.

Equally important, is the *why* that matters: monitoring should be a tool for learning, adapting, and improving continuously. Monitoring systems should not merely track progress, but generate rapid insights that help decision-makers course-correct in a timely way.

Useful ways forward

But what does this look like in practice? Three concrete concepts and methodologies offer clear, actionable examples:

1. Continuous feedback loops,
2. Adaptive evaluation, and
3. A/B testing.

The concept of a "continuous feedback loop" is gaining traction. The What Works Hub for Global Education (Oxford University) emphasises: *"Effective monitoring involves regularly collecting data on student learning, teaching practices, and school conditions. But data alone is not enough. Systems must include mechanisms to analyse and use this data to inform adaptations. Examples include Kenya's Tusome program, which equipped instructional coaches with tablets to track classroom quality in real time, and Uganda's LARA project, which adjusted its assessment tools mid-implementation when they proved too burdensome for teachers. Feedback loops must support teachers, inform implementers, and guide policymakers, with the ultimate goal of improving learning outcomes."* (Hwa, Kayton & Kaffenberger, 2024)

The recent Harvard-affiliated organisation IMAGO has been advancing an "adaptive evaluation" approach to support implementation in complex systems. This method has recently been applied in the city of Recife, Pernambuco, with promising results. Using systems diagnostics and process tracing, Recife's reform effort assessed implementation variation and learning outcomes across schools. In 2023, the system shifted to allow more school-level autonomy, reduced testing burdens, and prioritised timely feedback. While results varied, many schools saw post-pandemic learning gains. High-performing schools shared

common traits: active data use, collaboration, and adaptive groupings. The experience showed that adaptive evaluation can generate valuable insights even when causal attribution is difficult, supporting a model that balances central coordination with local flexibility (Bellato et.al 2025)

Similarly, the concept of "A/B testing" offers a rigorous, real-time monitoring approach designed to inform and adapt implementation rapidly. Originally rooted in industry, this methodology is now being promoted in education by Youth Impact13, an organisation in Botswana. A/B testing uses randomisation – like Randomised Controlled Trials (RCTs) – to generate causal evidence, but unlike RCTs, which typically assess long-term program effectiveness through external evaluation, A/B tests focus on optimising effectiveness, cost-efficiency, and scalability in the short term. These tests generally last weeks or months and are embedded within organisations' ongoing monitoring and evaluation systems, enabling immediate, data-driven decision-making. This marks a significant shift as education increasingly adopts this agile, iterative approach to implementation (The What Works Hub, 2025).

In summary, system leaders and policymakers should consider what is within their reach and think substantively about how to monitor deeply, monitor quickly, and monitor to learn. When monitoring systems capture what matters most – rapidly and with a clear formative purpose – the entire implementation infrastructure becomes smarter, more responsive, and better equipped to deliver results. As McLaughlin and Ruby (2021) emphasise: *"We need a simple, accessible way to know where we are in the implementation process as it unfolds – not to wait until the end when it's too late. We need markers in the fog."* And, as with every lever from this brief, it comes back to the first principle: implementation is not an event, it is a process.

RECOMMENDATION #2: Foster a problem-solving bureaucratic environment that enables continuous learning and adaptation throughout implementation.

The adaptive and interactive nature of the implementation infrastructure outlined above can only thrive in a bureaucratic environment that allows it to. The core challenge is not merely about building infrastructure, but ensuring the administrative culture it inhabits is conducive to flexibility, learning, and adaptation.

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13 Source: https://www.youth-impact.org/

The Teach For All network's publication, "The Missing Piece" (Teach For All, 2023), drawing on insights and evidence contributed primarily by teachers who are or have been affiliated with local Teach For All organisations in over 60 countries, seeks to identify the critical enabling factors behind successful systemic reform. According to the report, the "missing piece" is what they call "collective leadership" – achieving a critical mass of people at all levels of the system who cultivate a shared sense of purpose and meaning and, in the process, find direction and coordinate toward a social outcome greater than the sum of their individual actions. In short, the authors sustain that collective leadership is the fuel that fosters an "enabling environment in which technical solutions are more likely to flourish". This perspective is connected to a growing body of work on the nature of bureaucracies and its relationship to implementation.

Akshay Mangla, in his book "Making Bureaucracy Work (2023)", develops a theory of implementation centered on the concept of bureaucratic norms – the informal rules that shape how bureaucrats interact with one another and interpret their agency's collective mission. Based on fieldwork in India's education sector, Mangla demonstrates that even within similar formal institutional structures, variation in bureaucratic norms can lead to different implementation outcomes, particularly in achieving complex goals like improving learning.

He identifies two contrasting types of bureaucratic culture: legalistic bureaucracies, which prioritise adherence to rules and procedures, and deliberative bureaucracies, which emphasise flexibility, local problem-solving, and responsiveness. Mangla's framework aligns with other models in the policy and governance literature, such as Bersch's (2019) distinction between "problem-solving" and "powering" bureaucracies and the "Problem-Driven Iterative Adaptation" (PDIA) approach developed by Andrews, Pritchett, and Woolcock (2017). It also echoes the insights of Dan Honig's Mission Driven Bureaucrats (2024). Drawing from randomised controlled trials, observational research, ethnographic studies, and field experiments, Honig demonstrates that empowering frontline officials with autonomy and a clear sense of mission yields stronger public sector performance than strict top-down control and compliance-driven oversight.

Crucially, Mangla implicitly expands Michael Lipsky's (1980) theory of street-level bureaucrats by arguing that discretion should not be limited to frontline actors (like teachers), but also recognised and valued at other system levels – particularly the middle tier. In Brazil's large-scale educational systems, the predominance of a legalistic, compliance-oriented bureaucracy, although not yet measured in the same way that Mangla does in his work, is part of the scene. This appears to be linked to at least three factors:

- **Historical trajectory**: the initial challenge of ensuring access to education and provision of basic supplies (such a textbooks) led to systems designed for codifiable, straightforward tasks. Over time, this solidified into a legalist culture.

- **The "allure of order"** (Mehta, 2013): as systems grow, top leadership often seeks control through increasingly prescriptive regulations, believing they can govern complexity from above. The author of this brief's personal experience, as a deputy secretary in São Paulo's 5,000-school system in the mid-2010s, was marked by the bureaucratic burden of having to write detailed government norms for every policy decision, merely in the hope that middle-tier actors and school-based agents would follow them.
- **External oversight culture**: the prevailing approach of public accountability bodies in Brazil – such as *Ministério Público* (the Public Prosecutor's Office) and *Tribunais de Contas* (the Audit Courts) – is on procedural compliance and legality of public spending, often at the expense of innovation and a focus on policy outcomes. This reinforces a rules-based approach to day to day operations.

In such a rigid bureaucratic culture, it is hard for an adaptive implementation infrastructure to function. Therefore, in addition to investing in the "implementation infrastructure" laid out in recommendation #1, system leaders could also benefit from work to reshape bureaucratic behaviour and culture. Three strategies are offered below to help foster a more deliberative, problem-solving environment, based on real examples:

1. Create space for local adaptation within policy design

Mangla (2023) recommends that bureaucracies are given room to "puzzle" – to think, learn, and adapt through iterative experimentation. This brief takes that argument one step further. In Brazil's multilayered system, policy frameworks can benefit from explicitly carving out space for regional and local authorities to adapt implementation to their contexts.

How might this work in a real-life scenario? The recent system-wide reform in Peru, known as Soporte Pedagógico, provides an illustrative case. Although eventually discontinued for political reasons, the program managed to generate meaningful progress in a historically low-performing system and showed early signs of success. As Balarin (2025) notes, the reform "*devised an implementation strategy characterised as one of 'decentralised-centralism', which effectively allowed it to reach a very large number of schools in all of Peru's twenty-six regions. Its effectiveness lay, in part, in how it ensured alignment with key goals and activities while allowing a necessary degree of discretion for school-level implementers. This flexibility enabled schools to adapt swiftly to the diverse realities of Peru's heterogeneous territory.*"

Bluntly put, creating space for local adaptation is more than permitting flexibility; it is about institutionalising an **expectation of contextualisation** at the frontline. This can be gradual, starting with smaller degrees of discretion and increasing over time. Such moves send a strong message: **problem-solving isn't just allowed, it's essential.**

2. Identify and learn from positive deviants

Positive deviance refers to the behaviours and strategies of actors who outperform their peers under the same constraints (Pascale, Sternin, & Sternin, 2010). These practices, while uncommon, are effective and can offer critical insights. Mangla (2023) suggests that deliberately identifying positive deviants – if done thoughtfully to avoid political tensions – can help normalise adaptive behavior and shift bureaucratic norms toward problem-solving.

A few large-scale systems in Brazil have adopted this strategy. Yet again, Ceará stands out for having one of the most intentional and well-structured approaches to identifying positive deviants and leveraging them to drive system-wide reform. One of the most innovative aspects of Ceará's implementation of literacy reform efforts was the creation of a financial award for top-performing schools – granted only if they partnered with a lower-performing school and actively supported its improvement efforts (Abrucio, Segatto & Pereira, 2016).

Given the scale of Brazil's education systems, such **positive outliers are bound to exist in every system,** and the central office should actively seek them out – at both regional and school levels – to showcase solutions and inspire others. This underscores the interdependence with the monitoring lever, since one cannot identify positive deviants without good data.

3. Promote lateral conversations across the system

Much of the implementation discourse focuses on vertical alignment (top-to-middle, middle-to-schools), but horizontal interaction is equally vital to fostering adaptive bureaucratic cultures. This means, according to Fullan (2009), finding ways for implementers to learn from each other, and especially from their counterparts that are more advanced in the process.

Hierarchies often struggle to adapt because they need to pre-plan and control every step. Peer-to-peer learning and lateral collaboration can be more agile. Professional learning communities (PLCs), as advocated by Hargreaves (2012) and Hattie (2008, 2015), are proven mechanisms for enabling such networks. Fullan (2009) highlights the importance of ensuring that schools do not operate as "islands," but instead see themselves as part of a cluster or network fostering both mutual support and "friendly competition". As schools strive to surpass one another, they ultimately build a shared sense of pride in their collective achievement.

In "Bringing the Profession Back In: Call to Action for Ontario Education", Fullan and Hargreaves (2016) describe PLCs in Ontario as dynamic, collaborative networks that extend beyond individual schools

to encompass educators at multiple system levels. These PLCs are intentionally structured to foster continuous professional learning through shared inquiry, collective problem-solving, and aligned instructional improvement. For example, teachers across schools within a district regularly meet to analyse student assessment data, identify common challenges, and co-develop targeted teaching strategies. Principals and instructional coaches participate actively by facilitating these discussions and supporting teacher leadership. Leadership is distributed throughout the system, with school boards organizing regional PLCs that enable cross-school collaboration and provincial bodies providing resources and frameworks that guide the work. This networked approach builds trust and shared responsibility, transforming PLCs into engines for system-wide reform and ensuring coherence between classroom innovation and broader educational goals.

In short, a deliberative, adaptive, and problem-solving bureaucracy tends not to emerge by accident, so should be intentionally cultivated. By creating space for regional and local adaptation, recognising positive outliers, and fostering horizontal learning, system leaders can help shift bureaucratic culture toward one that empowers the 'implementation infrastructure' to fulfill its purpose of supporting dynamic, system-wide improvement in large-scale settings.

RECOMMENDATION #3: Partner strategically with non-state actors aligned with and committed to supporting government-led implementation efforts.

The final recommendation of this brief involves reaching out, when necessary, for external support to actors outside of government, such as universities and NGOs, to help bring the first two recommendations to fruition. The rationale for this is fourfold: addressing capacity limitations, managing the scale of the challenge, increasing the chances of continuity, and taking advantage of a maturing ecosystem of support organisations.

First is the issue of state capacity, identified as low level in Brazil's education sector by several authors (Abrucio & Seggato, 2021; Abrucio & Viegas, 2022). While most of this literature has focused on the municipal level (where systems are predominantly small or medium-sized), new evidence on large-scale systems is beginning to show that even though they often have more professionalised bureaucracies, they face similar challenges (Yan, Sano & Sumiya, 2022). Additionally, the fact that direct investments in strengthening state capacity rarely generate immediate political gains (and may even be politically costly, given recent stigmas in Brazil against public bureaucracies) means that the issue tends to receive little attention from within subnational governments, and capacity challenges often remain unaddressed.

As this brief has argued, out of all the steps involved in a policy, implementation can be the most dependent on state capacity. One possible line of criticism is that relying on external support for this function risks reinforcing the problem, by outsourcing critical functions of the state. While this is a complex and context-dependent question, the literature on state capacity has come to consider non-state actors as potentially contributing to, rather than undermining, state capacity. Corrêa (2025, working paper) synthesises global and Brazilian literature on this topic and shows that, beyond the individual and organisational dimensions, a "systemic" dimension positions non-state actor involvement as a variable that can positively contribute to strengthening state capacity. Ontario, Canada – a globally recognised large-scale education system in terms of student achievement – provides an example of how robust partnerships with non-state actors, including universities and civil society organisations, contributed to strengthening state capacity over decades (Fullan, 2009; Levin, 2010).

The second argument relates to the nature of implementation itself. The author of this brief's personal experience working in a high-level position for three years in São Paulo's state education system – the largest in Brazil – was that large bureaucracies are typically consumed with the day-to-day operational complexities of running the system. In this context, external support can serve as an enabler to support overstretched teams in their efforts for change.

The third argument is that external support increases the likelihood that implementation efforts will be sustained over time. Implementation takes time and a single term in government (of four years in Brazil) is often insufficient to consolidate reforms. Although re-elections can facilitate continuity, leadership transitions – both at the executive level and within education secretariats – often pose a risk to reforms. As Corrêa (2024) demonstrates through cases from Brazil, non-state actors can play a role in sustaining momentum during administration transitions, applying pressure to maintain initiatives, and preserving institutional knowledge in the handover to incoming leadership.

A further argument for engaging with external partners is simply that education leaders in Brazil now have access to a robust network of high-quality non-state actors, which was not available in the recent past. One example is Núcleo de Excelência em Tecnologias Sociais (NEES) at the Federal University of Alagoas, a research and innovation centre, which supports the Ministry of Education (MEC), the National Fund for Educational Development (FNDE), and various state secretariats by offering applied research, digital tools, and data analysis to inform and support both high-level policy and frontline implementation.

Another example is Fundação Getúlio Vargas (FGV), which supports governments in designing and implementing projects in areas like literacy, vocational training, teacher development, and management. As of now, FGV Rio de Janeiro, for example, has provided technical assistance in 19 states.[14]

From the NGO perspective, a shift in perspective is evident. Several organisations have moved from running their own branded programs to focus instead on supporting government-led policy formulation and implementation. Many of them have focused specifically on large-scale systems – the primary focus of this brief – with a large part of them doing implementation support work. Two alliances are worth a mention. First, the Instituto Sonho Grande and Instituto Natura alliance has been working to replicate elements of Pernambuco's high school success story in 18 states[15]. Second, the already mentioned Fundação Lemann, Instituto Natura, and Associação Bem Comum alliance is currently advancing the replication of the successful literacy model from Ceará, also in 18 states.[16]

Recent data underscores the potential impact of these efforts. By 2023, 15 of Brazil's 26 states were receiving assistance from this second NGO alliance. When comparing government data on second-grade literacy outcomes from all public schools between 2019 and 2024, the nine states that began implementing Ceará-inspired reforms with alliance support in 2019–2020 all showed gains, with an average increase of 14.1 percentage points. In contrast, the nine states that had not received alliance support by 2023 – despite having a similar average starting point in 2019 – showed a much more modest average improvement of 4.4 percentage points.

While this data does not establish causality, since it is possible that governments more committed to education and managerial improvements were also those more likely to seek partnerships, the data suggests a correlation. This is notable given that, on average, supported states had lower per capita GDP than those unsupported, a relevant detail in Brazil, where socioeconomic status is closely linked to educational outcomes.

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[14] Source: https://dgpe.fgv.br/projetos
[15] Source: ISG Website
[16] Source: Instituto Natura website

PERCENTAGE OF LITERATE STUDENTS AT 2ND GRADE IN ALL PUBLIC SCHOOLS WITHIN THE STATE TERRITORY (STATE AND MUNICIPAL SCHOOLS) IN SELECTED STATES

Reference	2019	2024	Dif	Per Capita GDP (in Brazilian Reais)
Ceará	73	85	12	24.296

9 states supported by the alliance starting in 2019-2020
(ordered according to 2024 results)

Reference	2019	2024	Dif	Per Capita GDP (in Brazilian Reais)
Goiás	63	73	10	45.156
Espírito Santo	62	72	10	47.619
Pernambuco	45	61	16	27.139
Piauí	50	60	10	22.279
Maranhão	33	60	27	20.633
Mato Grosso do Sul	41	56	15	60.365
Alagoas	39	49	10	24.322
Amapá	25	47	22	32.194
Sergipe	31	38	7	25.965
Averages	**43,2**	**57,3**	**14,1**	**33.964**

9 states not supported by the alliance at least up to 2023

Reference	2019	2024	Dif	Per Capita GDP (in Brazilian Reais)
Minas Gerais	64	72	8	44.147
Rondônia	46	63	17	42.248
Santa Catarina	69	62	-7	61.274
Rio de Janeiro	49	55	6	71.850
Acre	53	51	-2	28.525
Tocantins	38	50	12	38.512
Amazonas	44	49	5	36.827
Rio Grande do Norte	32	39	7	28.409
Bahia	41	36	-5	28.483
Averages	**48,6**	**53,0**	**4,4**	**42.253**

Source: Brazil's Ministry of Education Official Data / Table generated by the author

In short, when it comes to overcoming the implementation barrier, non-state support can be helpful. Brazil's education leaders could benefit from perceiving these actors not as substitutes for the state, but as strategic partners in developing and reinforcing the capacity required to deliver sound implementation and, consequently, lasting educational improvements.

PART 4 – IMPLICATIONS FOR SECONDARY AUDIENCES

While the primary audience of this brief is education system leaders – particularly those in large-scale systems – the insights presented here also carry meaningful implications for other actors, including leaders of small- and medium-sized systems, national authorities, and non-state organisations. To that end, and based on the same evidence and arguments presented, this final section offers recommendations aimed at three key audiences: the Ministry of Education, academia, and the third sector.

While a list of proposed actions for different actors is provided below, this brief intends to avoid being overly prescriptive. With this in mind, the ideas below are provided as suggestions for consideration by leaders in those fields. These suggestions aim to further advance the implementation agenda discussed in this document.

Ministry of Education (MEC)

- Heavily invest in strengthening state capacity among system leaders at the state and municipal levels, enabling the approaches discussed in this brief to gain traction. A potential path forward could include a partnership between MEC and Enap (National School of Public Administration) focused on leadership development for implementation.
- Incorporate specific guidance on implementation into the design of national education policies, helping to orient subnational policymakers toward effective strategies and best practices for turning these policies into reality.
- Stimulate academic research by funding public calls for proposals that support studies on how national education policies are being implemented at the subnational level and what lessons can be drawn from these experiences.

Academia

- Continue strengthening its capacity to support government-led implementation efforts, following the example of institutions such as the Federal University of Alagoas (through the NEES Centre) and Fundação Getúlio Vargas (FGV).
- Deepen research – particularly applied research – on education implementation, especially in the areas explored in this brief, with special emphasis on the role of the middle tier, a critical yet underexamined topic in global academic literature.

- Expand research into variations in implementation of similar policy frameworks across territories – for example, comparing dissemination efforts in states that are advancing Ceará or Pernambuco-inspired reforms.
- Create or strengthen dedicated centres or departments within universities focused specifically on implementation studies.
- Increase the prominence of this theme in master's and PhD programs in post-graduate studies, especially in areas such as public administration, public policy, and education management.

Third Sector

- Strengthen technical support for implementation within government – without attempting to take over its role – ensuring it is aligned with insights from international and Brazilian research. Additionally, systematise and publicly disseminate the lessons learned from these efforts to enrich public debate and knowledge-sharing – in this regard, the approach of Laboratório da Educação (LabEdu) – which actively shares implementation insights from its work with governments through its annual reports[17] – can serve as a valuable inspiration for the field.
- Invest in and support research on implementation, complementing and amplifying academic efforts in the areas mentioned above.
- Support the development of dedicated research centres focused on policy implementation, whether within universities or as independent think tanks, like the recently launched Centre for Education Policy Implementation (a partnership between FGV São Paulo, the São Paulo State Department of Education, FAPESP, and Instituto Unibanco). Initiatives like this should be expanded and replicated across different regions of the country.
- Invest significantly in translating key implementation literature into Portuguese, including both classic and contemporary works. A recent example is Enap's translation of Michael Lipsky's seminal Street-Level Bureaucracy. While several of the themes discussed in this brief already have literature available in Portuguese, many valuable global contributions remain largely inaccessible to Brazilian audiences because of language barriers.

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[17] Source: https://labedu.org.br/noticias/relatorio-atividades-2024/

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