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Diseconomies of Scale: Does Scaling Educational Interventions Cost More Than We Think?

This is a collaborative blog by [Sarah Kabay](#), Director of IPA's [Education sector program](#), and [Joseph DeStefano](#), Senior Director, Policy, Systems & Governance at [RTI International](#). They share some thoughts on why costs might increase when scaling education programs. This piece is also posted on the [RTI blog](#).



Students participating in classroom activities in Ghana (IPA / © 2013 Stella Benezra)

Many actors in global education are interested in how to scale effective interventions, but

could we all be operating under a big misconception about costs? Whether implicitly or explicitly, we tend to assume that the costs per unit (such as costs per school or per child) will decrease as an intervention scales up. Economies of scale—or the cost advantage that can be achieved at a larger operation level—is a popular and convenient concept, and can be true for certain interventions. However, there are multiple reasons why the unit cost of an educational intervention might be greater when operating at scale.

The challenge of producing the same outcomes at scale as in a pilot stage stems in part from the fact that educational interventions are often reduced for implementation at scale. After an initial study, the first conversation about scale seems to focus on what parts of an intervention can be done at a lower cost. We ask, “Do we really need two rounds of training?”, “Can this five-day training be completed in three days?”. As a result, the impact at scale can be far less than what was found in initial, smaller studies. It is important to ask what was implemented at scale and how that compares to what was implemented in earlier studies.

Research on structured pedagogy programs, one of the most well-researched and widely implemented educational interventions, finds that the impacts are smaller but that costs per unit decrease with the scale of these programs ([Sandefur, 2023](#)). The argument is that there are many fixed costs—such as the development of materials—that create economies of scale. However, there could be other dynamics at play that potentially lead to the opposite diseconomies of scale, where unit costs might increase for implementation at scale.

There are at least three reasons why the costs per unit of an educational intervention might increase between an initial proof of concept phase and implementation at scale.

Implementing an intervention at scale requires more and more varied engagement with an educational system. When you implement a program in 300 or 400 schools, you can often engage directly with schools and possibly one or two administrative units. The work can be focused almost exclusively on what it takes to successfully implement the intervention.

Operating with thousands of schools includes more administrative units and levels of government, and the work must address system implications as much as the intervention itself. Informing and engaging multiple levels of the system and departments, determining roles and responsibilities, and anticipating how other aspects of the system will be affected, are all significant and often time-intensive parts of moving toward scale. Navigating politics, other interventions and actors, and competing priorities, all increase in complexity as you scale.

Staffing and other human resource constraints may need to be addressed. There are only so many skilled or experienced leaders and managers in an education system. The number of people with the expertise to be master trainers, for example, can be a key constraint. When operating at scale, it is often necessary to have people with fewer skills and less experience direct and manage key activities, which creates the need for additional quality checks, reinforcement, and supplemental activities. In short, the need for more

people at various skill levels can raise the cost of implementation at scale.

The issues affecting students, teachers, and schools become more diverse as you scale. You encounter more and different obstacles and challenges across a larger population, requiring greater flexibility, adaptation, and responsiveness. It is hard to anticipate all of the issues that will arise with scale, but whether it is more linguistic diversity, urban vs. rural contexts, or greater exposure to shocks such as weather events, the process of scaling often introduces elements and factors that you did not have to navigate in smaller scale projects.

Across each of these three reasons, a critical concern is equity. Initial implementation of an intervention rarely happens in the most remote or disadvantaged region of a country, or with the most marginalized or vulnerable populations. Attention to equity is a key driver of costs at scale, from addressing the constraints of an under-resourced district education office to planning for how schools with teacher vacancies can successfully implement the program, to anticipating the needs of students with chronic absenteeism. Confronting these issues at a systemic level—planning for both anticipated and unexpected challenges—requires resources.

The use of the phrase “last mile” in implementation suggests that scaling an intervention will run smoothly until the last stretch when often the entire process can be quite bumpy. We need more language and conversation around the challenges and complexity of scaling educational interventions. The current dialogue often seems constrained by a somewhat arbitrary vision for what kind of financing is possible, and then implementation has to proceed within those constraints. Budgets are limited, but the impact at scale we observe is likely being constrained by underinvestment in the issues raised here, even in cases where a significant amount of resources are being poured into an education system. Slower expansion to scale with sufficient funding to assure quality and equity and address the challenges that scale presents could be an important way forward to meaningfully improve learning outcomes at scale.