IMPROVING EARLY GRADE READING IN SOUTH AFRICA

A PROPOSAL FOR A RANDOMIZED CONTROL TRIAL TO EVALUATE ALTERNATIVE POLICY INTERVENTIONS

Summary

We propose an impact evaluation of interventions aimed at improving early grade learning in South Africa. Three alternative strategies to improve early grade reading will be evaluated: (i) a teacher training course focused specifically on teaching reading together with additional reading booklets and lesson plans; (ii) an on-school support programme to teachers consisting of monthly visits from specialist reading coaches, together with additional reading booklets and lesson plans; (iii) and a package designed to improve parent involvement in – and monitoring of – learning to read. The cost-effectiveness of these three programmes will be evaluated relative to each other and relative to a control group of schools using a rigorous impact evaluation design. Formative research, piloting and preparation are planned for the remainder of 2014. The full-scale project implementation is scheduled to occur over a two-year period during 2015 and 2016 in one of the provinces of South Africa.

Motivation

Why reading?

The acquisition of reading is foundational to all subsequent learning, yet South African schools are seriously underperforming in this regard. The PIRLS study of 2006 showed that a striking 80% of South African children were not yet reading with comprehension after five years of schooling. The problem is particularly severe amongst poor children. Consequently, massive inequalities in educational achievement are established early in primary school and research shows no evidence of these inequalities being reduced in later years. Therefore, early interventions, such as improving the acquisition of reading amongst poor children, can be expected to have larger effects than interventions later in the school programme.

Although the Department of Basic Education (DBE) and Provincial Education Departments are implementing various strategies to support early grade reading, there is little or no sense of what is working and why. Moreover, there are competing models of support in the system. For example, the teacher union and Provincial Education Department collaboration initiative appears to favour the traditional model of teacher training workshops, the Western Cape LITNUM strategy

runs in-service training courses (one focusing on teaching reading) through the Cape Teaching Institute, whereas Gauteng provides additional graded readers and clearly scripted lesson plans and employs specialist reading coaches who visit teachers on monthly basis to observe lessons and offer assistance. It is important that a national reading strategy be based on scientific evidence regarding what most improves the acquisition of reading in the context of South African schools.

There are other reasons for the focus on reading rather than a broader focus on literacy or numeracy. The main reason is that **reading is a gateway into all other learning** including writing, numeracy and to becoming an independent learner. A second reason is that it is easier to run a campaign around reading and to raise public awareness around how well children should be reading than to do so for literacy or numeracy more generally. Therefore, building an intervention around reading may be strategic for gaining traction amongst a wide set of stakeholders. This includes parents. In fact, there is a clear need to **raise expectations** amongst parents (and teachers for that matter) about how well (and how quickly) their children should be learning to read. Intervention 3 of this project aims to empower parents with aspirational information and help them find ways to become involved in their child's reading. For these strategic reasons the project uses reading as the focus, but this is no way discounts the inter-dependencies between reading and other aspects of literacy, such as writing which is central to the teaching of reading.

Why a Randomized Control Trial?

The Randomised Control Trial (RCT) methodology is increasingly viewed as the gold standard for estimating the causal impact of particular programmes. This is because it is able to construct a credible "counterfactual" scenario – what would have happened to those who received an intervention had they not received that intervention. Other methodologies that simply look at before and after measurements or compare recipients with non-recipients who select themselves into a programme, may not provide a credible counterfactual scenario and therefore cannot measure causal impact. While there are other valid methodological approaches to evaluation, including process evaluations, qualitative methods and quasi-experimental methods, in a situation such as this where new potentially scalable interventions are being tested, an RCT is ideal.

Description of each intervention

Intervention 1: Teacher training course

Teachers will meet at a central venue for a 2-day training workshop twice in each year; once early in the year and once mid-way. Unlike typical training workshops, this is best understood as 'just-in-time' training: not on general principles, but specifically on how to implement the programme in the upcoming weeks. Additional sets of graded reading booklets and clearly scripted lesson plans will also be provided to teachers, to ensure that these aspects of the instructional core are also present. The focus will be explicitly on how to teach reading acquisition and on how to effectively use the new materials as well as other available materials - especially the government-provided workbooks - to most effectively teach reading.

For this intervention, the testable hypothesis is that improved ***teacher capability*** through knowledge of teaching methods and resources with which to apply these methods will be sufficient to change classroom practice and in turn impact on learning outcomes. If this intervention is successful it will demonstrate that other constraints in the system including teacher motivation, the organizational functioning of the school and the influence of home background factors do not completely prevent the effectiveness of interventions targeting teacher capability.

Intervention 2: Reading coaches, graded readers, lesson plans

Treatment 2 involves regular (once a month) on-school coaching from specialist "reading coaches" as well as provision of graded reading booklets and lesson plans.

Coaches play a number of distinct and overlapping roles. Coaches play an important role in modelling the new practice, sometimes actually teaching a lesson in classrooms. This in-class modelling is important for two reasons. First it provides teachers with real examples of how to make use of the lesson plans and learning materials and demonstrate effective classroom management techniques. It is also important as it helps build trust both in the coach and in the overall intervention. Over time, the coach's role shifts towards that of 'critical friend', observing and providing real-time input to teachers as they begin to master the new practice. Finally, the coaches also play an important ***monitoring role***, providing regular feedback to the project management team on the level and quality of programme implementation. The monitoring role also involves reporting on key management issues such as teacher attendance.

Over and above addressing teacher ***capability*** through knowledge of teaching methods, here we aim also to improve ***teacher motivation*** through the accountable relationship with the reading coach. Although there are no rewards or sanctions for teachers, the face-to-face engagement with the coach creates a soft form of accountability and motivation through the monitoring and inspiration provided by the coaches.

Intervention 3: Parent involvement

The third intervention aims to empower parents with information and opportunities to become more involved in the education of their children. The school community receives benchmarked information of school performance relative to other anonymous well-performing schools of similar socio-economic background. This information about what outcomes are possible and what outcomes are in fact be achieved is intended to prompt parents to exercise greater voice within the school community thus leading to improved local accountability and consequently more dedicated teaching. Teachers thus remain central to the theory of change in so far as accountability to parents acts as motivation towards increased effort levels.

In addition, parents receive a simple tool explaining what reading skills should be achieved at each stage of the year and how to assess whether these are being met. This allows parents to themselves track reading progress of their children.

Finally, there will be a facilitated discussion where parents and teachers (i) agree on education outcomes they hope to achieve the following year; (ii) agree on concrete actions that all stakeholders need to take to achieve these goals; (iii) sign a "social compact", a public commitment to take these actions. This final step is needed to help parents mobilize in exercising voice.

Intervention 1 has a change theory built around teacher capability; Intervention 2 addresses both teacher capability and motivation through the support of a reading coach; Intervention 3 expects change to occur through increased motivation due to local accountability and support from parents. The design of these three interventions is therefore constructed to shed light on the binding constraints in the South African school system and thus on what types of interventions can be expected to be effective. The lessons for education policy and research will therefore go further than merely establishing which of these three programmes were most impactful.

Research Design

The project will target Grade 1 children in 230 schools in one of the provinces of South Africa and will be implemented over two years. Certain types of schools will be excluded from the project in order to target the most policy-relevant part of the system. We will not include Quintile 5 schools (the most affluent schools according to the official school poverty classification), small schools (less than 20 learners per grade), large schools (more than 120 learners per grade) or very low-performing schools according to the Annual National Assessments (there is reason to believe that such schools are not "change ready" and may face basic functionality constraints). Within the targeted group of schools, a lottery will be used to select a control group of 80 schools and three "treatment" groups of 50 schools each to participate in the interventions, thus setting up a type of "horse race" to establish which intervention is most effective, as well as cost-effective. There will be three waves of data collection to facilitate project evaluation: February 2015 (baseline), November 2015 (midline), and November 2016 (endline).

The project will shed light on several pertinent research and policy questions. Firstly, the experiment evaluates the impact of each intervention on reading acquisition relative to the status quo. Is the traditional model of "one-off" training programmes at centralised venues sufficient to impact reading acquisition or, does there need to be ongoing school support from specialists? What is the scope for increasing parent involvement in poor and rural schools, and if this can be achieved does this improve teacher accountability and learning outcomes? If more than one intervention is successful, we can identify the most cost-effective intervention for full-scale implementation.

We also look at long-term effects and spillover benefits of faster reading acquisition. Do the impacts of the intervention persist, dissipate or compound over time? If one succeeds in improving the acquisition of reading in the early grades, are there spillover benefits into other learning areas such as Numeracy and First Additional Language? Over and above our initial data collections, we can measure this using results of the Annual National Assessments (ANA) in subsequent years.

Mixed methods

Our data analysis will estimate the overall treatment impact for each treatment group, but will provide limited information about the underlying mechanisms driving the results. Each intervention has its own theory of change with somewhat different underlying mechanisms, and it may be of interest to further unpack causal mechanisms. To this end we employ qualitative research methods in six schools per treatment group (18 schools in total). We will use baseline data on reading achievement to select a purposive sample.

The main forms of data collection include classroom observation, semi-structured teacher interviews, collection of copies of a sample of learner exercise books, and where possible, interviews with Heads of Department, principals, parents, and 'reading coaches'. Our observations concentrate on two aspects of classroom data, (1) comparing 'lesson plans' to teachers' enactment and (2) learner work on the lesson, particularly in exercise books and workbooks.

Intervention 2, for example, could work through a capability mechanism or through a motivational mechanism, or both. Classroom observation may indicate whether the intervention has led to changed instructional practice (possibly indicative of improved capability). Similarly, through semi-structured interviews with teachers and other stakeholders, as well as observing compliance to the learner workbooks, we will assess effort levels and enthusiasm (motivation).

Note that we plan on administering detailed questionnaires to students, teachers and the school principal with each wave of data collection in all schools. This will provide some indicators of intermediate outcomes and underlying mechanisms. However, the qualitative research component will provide a richer level of detail, albeit without the statistical representativeness of the overall project.

Cost effectiveness

The explicit intention of the study is to determine the cost-effectiveness of different interventions aimed at improving early grade reading. The second intervention is a more intensive and expensive intervention than the first. The community monitoring is a relatively low cost intervention. If more than one treatment has a significant effect, we can compute and compare the price for a unit increase in test scores and use that to determine the most appropriate policy to scale up.

More detail on the research design is available upon request and is documented in the application that was submitted to the International Initiative for Impact Evaluation (3ie). This includes information on the sampling strategy, steps to address the risk of control group contamination, the planned estimation strategy, steps to avoid and deal with attrition during the study, etc.

Implementing Partners

The Department of Basic Education (DBE) in partnership with various NGOs and other stakeholders will take responsibility for implementation of the project interventions. Negotiations with a donor agency to finance the full scale project implementation are at an advanced stage.

An independent service provider (the Human Sciences Research Council) with experience in school-based fieldwork and data capturing has been appointed to conduct the assessments of reading proficiency, and administer any additional background questionnaires and to conduct occasional random spot-checks to monitor whether implementation is taking place suitably. After an extensive peer-reviewed application process, the International Initiative for Impact Evaluation (3ie) has committed to funding the project evaluation. The amount awarded is US$522 000.

An evaluation team has been nominated to provide academic oversight, conduct the data analysis and write the research reports. The team consists of international experts in education research, from the University of Stellenbosch, the University of Oxford, the University of the Witwatersrand, and Georgetown University.

List of additional documentation available upon request

1. Signed MoU between DBE and 3ie for the implementation of this project.
2. Contract between 3ie and HSRC for the evaluation of the project.
3. Technical design details submitted to 3ie.
4. Capacity building plan.
5. CV's of all Evaluation Team members.
6. Contact details for other people who are aware of the project and could provide opinion of the project design and relevance for their organizations:

    Carol Nuga Deliwe (DBE)
    Thabo Mabogoane (DPME)
    Ursula Hoadley (UCT)