Building strong foundations: Improving the quality of early education

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In 2012, the National Planning Commission reasserted the government's commitment to early childhood education and care in a succinct statement on one of its "enabling milestones" towards addressing poverty and inequality:

> *Increase the quality of education so that all children have at least two years of preschool education and all children in grade 3 can read and write*.[1]

The statement draws attention to three key issues which will be addressed in this essay: quality provision of early learning as an essential service (see previous essay), early intervention for children entering formal schooling, and the need to establish the fundamental skills for formal schooling by the end of grade 3.

Although great gains have been made in getting most children into institutions of early formal education, it is clear that there is much to be done to provide children with a schooling experience of acceptable *quality*. Quality at this level of schooling refers specifically to fostering positive social and cognitive learning in an environment that is safe, nurturing and stimulating, thus laying the basis for future learning and enhanced life chances. It is the tension between access and quality[i] that emerges as a key issue in considering current early learning and its expansion in future. This essay explores this issue and addresses the following questions:

- What is the current status of early schooling for young children in South Africa?
- What are the key sources of underperformance?
- What is needed to enable learning in the foundation phase (grades R – 3)?

What is the current status of schooling for young children in South Africa?

Whilst access to school has improved for the youngest learners, the quality of learning remains a serious issue, especially as measured in educational outcomes.

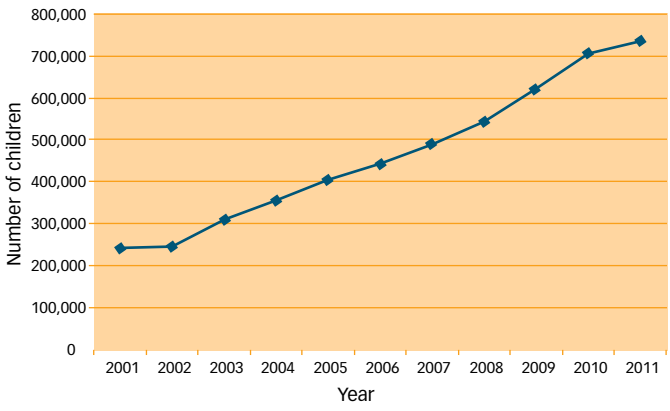
Access

The Education White Paper 5 set the explicit target of achieving universal access to a reception year (grade R) for five-year-olds by 2010.[2] Although this deadline has now been shifted to 2014,[ii] public funding and the use of existing school infrastructure have ensured that increasing numbers of children throughout the country have access to formal early education.[3]

In 2011, about 40% of five-year-olds had access to grade R in schools; 11% were enrolled in primary schools and approximately 32% were attending a less formal preschool, such as a crèche.[4] *Only about 17% of five-year-olds were not enrolled* in any form of schooling or preschool.[5]

Enrolment in grade R more than doubled in the poorer provinces of Limpopo, Northern Cape and North West between 2002 and 2011.[6] Using data from the General Household Survey, the Department of Basic Education reported that, in 2011, 88% of grade ones had received formal grade R the previous year.[7] Figure 10 shows the rapid growth in grade R enrolments from 2001 – 2011.

Figure 10: Grade R enrolments in South Africa, 2001 – 2011



Source: Department of Basic Education (2012) Annual survey of schools. Pretoria: DBE. In: Taylor S (2012) *Early Educational Inequalities and the Impact of Grade R*. Paper presented at "Towards Carnegie3: Strategies to Overcome Poverty & Inequality", UCT, 3 – 7 September 2012.

Similarly, high participation rates for grades 1 – 3 have been established for some time. In 2011, 99% of children aged 7 – 15 years attended school.[8] Participation in early formal education is thus high, and expanding, especially in poorer provinces. The question however is *what* children have access to in grades R – 3. Learner performance in the first grades of school is dismally low. There also has increasingly been a call for more thought around the strategy for implementing grade R, and one that pays heed to quality. In addition, a more phased approach, which builds on existing quality provision in schools and community sites, and expands provision over a period of years, has been recommended.[9]

i Debates around access and quality, particularly in developing country contexts, are well articulated in the research literature. See for example: Tikly L & Barrett A (2013) *Education Quality and Social Justice in the Global South*. Abingdon, UK; New York, USA: Routledge.

ii The draft Policy Framework for Universal Access to Grade R was made available for public comment in late August 2013.

Educational outcomes

The central measure of quality educational outcomes has been data from international and national standardised tests.[iii] Despite some of their limitations, across tests there is a *consistent* picture of low performance and by the end of grade 3 it is clear that the vast majority of learners cannot read, write, count and calculate at the appropriate grade level.[10]

Large inequalities in educational achievement exist and do not diminish as children progress through school.[11] Essentially, there are "two education systems":[12] a well-resourced system serving about 25% of the school-going population, where learning happens and students perform adequately to well, and a low-performing 75% of schools where largely poor and Black students are persistently failed by their schooling and attain extremely poor outcomes. A pattern of bimodal performance can be seen as early as grade 3.[13] Figure 11 shows the distribution of grade 6 literacy scores in relation to the wealth of the school community, and highlights the stark differences between the wealthiest 25% of schools, and the remaining 75% of schools.

Recent research shows that the current grade R has very little measurable impact on learners' subsequent school performance.[14] Emerging findings suggest that results are better for higher quintile schools and educationally stronger provinces (Western Cape, Northern Cape and Gauteng). This makes the quality imperative even more urgent. In particular it seems that the current low impact of grade R should be addressed before considering introducing an additional year of preschool education.

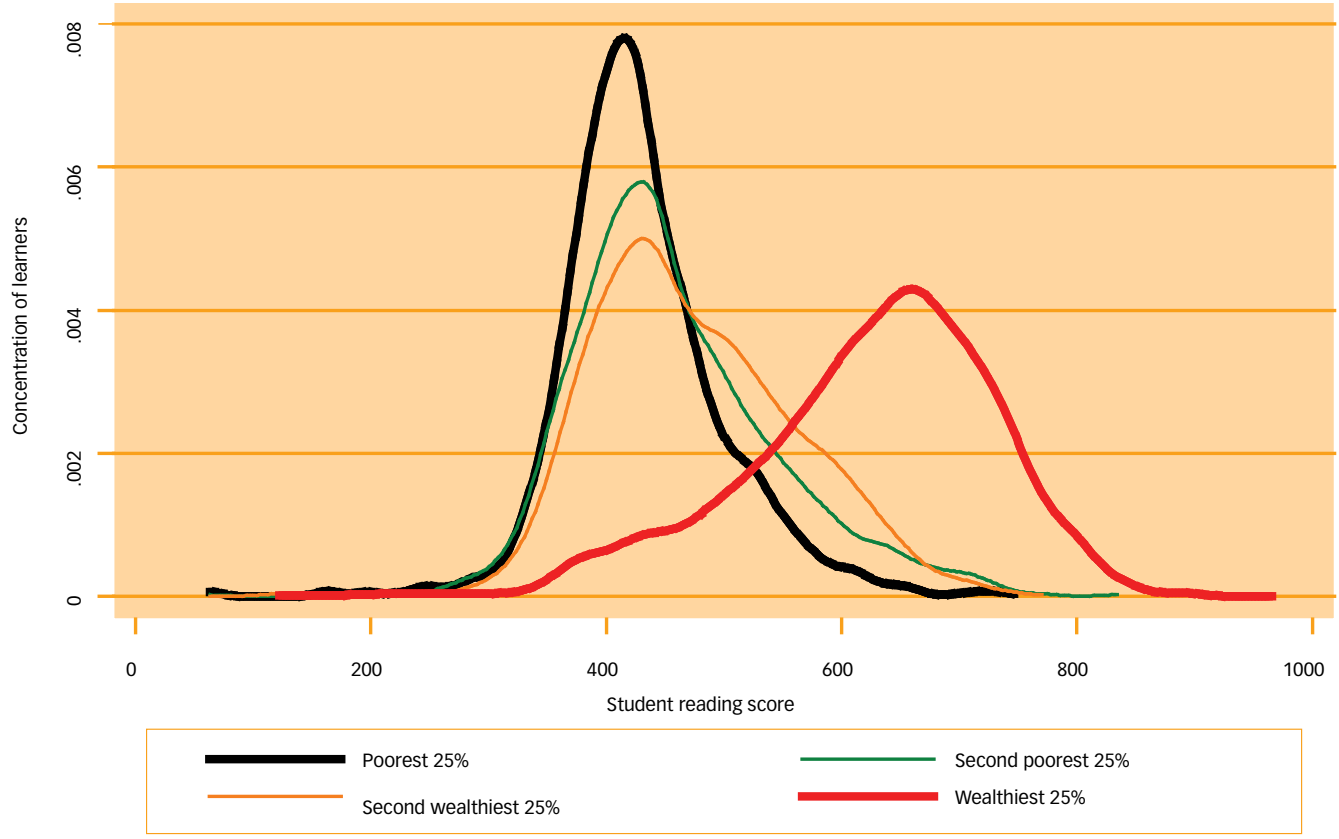
What are the key sources of underperformance?

The sources of underperformance are primarily located in the homes and communities of children, particularly for those living in poverty. Depending on their level of economic advantage, children are physically, psychologically, cognitively and socially differentially prepared for schooling when they arrive at the school gate. Once in school, particular forms of teaching, learning and conceptualising grade R impact on the educational outcomes of children.

Home background and preparation for school

Before children even enter school they are differentially prepared for formal education by their home backgrounds. There are two aspects to this: child-rearing practices (see the essay on pp. 62 – 65) and children's social and physical readiness for school. Children who come from homes that expose them to books, computers and what and how to read achieve better school outcomes. In these situations (mostly middle-class) children are often encouraged to actively participate in adults' conversations. Given the kinds of work that parents do, children in these households learn to engage in ways of thinking, reasoning and

Figure 11: Distribution of grade 6 reading performance, by income



Source: SACMEQ (2007) Grade 6 literacy scores. In: Spaull N (2011) *A Preliminary Analysis of SACMEQ III South Africa*. Stellenbosch working paper series no. 11, Department of Economics, Stellenbosch University.

iii Internationally, South Africa has participated in major cross-national comparisons of primary school student achievement, namely SACMEQ, TIMSS and PIRLS. In addition there have been a number of national standardised tests, including the most recent Annual National Assessments (ANAs).

speaking consonant with those ways required by school. They have access to resources, support and encouragement for learning, and parents interact more with the school.[15]

Social and physical readiness relates to children's health and nutrition, disability status, access to grants, psycho-social support and early stimulation. In South Africa, one in five children under nine years of age is stunted and stunting is as high as 48% among preschool children in Limpopo.[16] Stunting is associated with later cognitive defects,[17] poor school achievement and drop-out. It is the *combination* of risk factors that reliably predicts poor outcomes for children.[18] Improving school results therefore depends on strengthening inputs much earlier on, with a focus on maternal health and education, and adequate nutrition[19] (see the essay on pp. 24 – 29 and pp. 30 – 35). The case for early intervention and a supportive home environment has been made repeatedly.[20] And the importance of high quality early childhood education and care and its subsequent influence on children's success in formal schooling is now well established (as illustrated in the previous essay).[21] But once children are in school, what are the sources of poor outcomes?

The school and teachers

Infrastructure, resources, support, inspection and management all play a role in the quality of children's learning. But research confirms that, amongst school factors, it is what happens in the classroom that makes the greatest difference to children's learning outcomes.[22]

In summary, primary school classrooms in South Africa are characterised by an impoverished pedagogy (or process of teaching and learning). There is an emphasis on oral discourse, with limited opportunities for reading and writing. Classes are often large, with inappropriate teacher–learner ratios for early learning activities. Dominant forms of student participation involve chorusing rather than individual response in the classroom. Assessment and feedback to learners from teachers is weak, and there is very little direct or explicit instruction. The level of cognitive demand made on children in classrooms is low, and textbooks and other guiding materials are under-utilised. Instructional time is eroded by other activities in the school and classroom and the pace is generally very slow, resulting in children falling far behind the curriculum requirements for their age.[23]

The teaching of reading specifically is often based on oral drill sequences.[24] There are aspects to these practices that appear not to have changed from the findings of early studies in classrooms, which never progressed beyond technical decoding skills, and fostered little understanding of the meaning of texts.[25]

A number of studies of grade R classrooms in particular attest to the low quality of classroom provision. An Eastern Cape study, which went into 250 classrooms, concluded:

> *The province has increased access to Reception Year. The quality of the classrooms and of the educational programmes, however, may generally be harmful to the wellbeing of children.*[26]

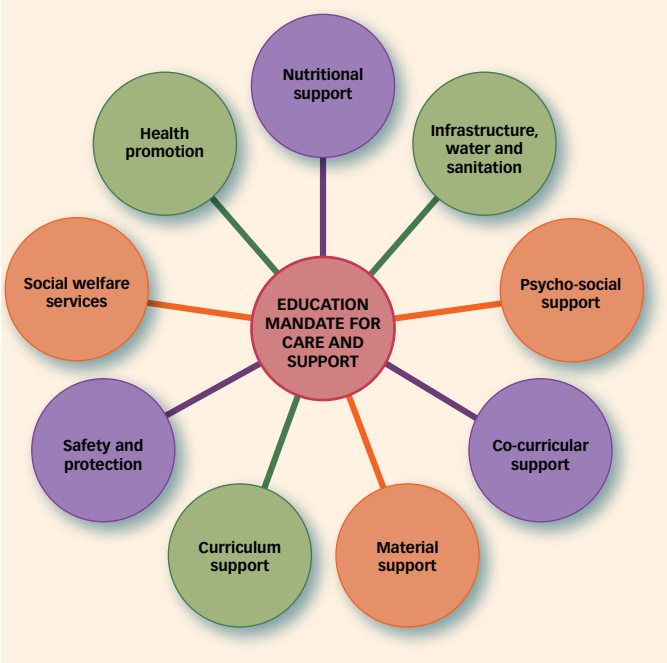
Some work in classrooms also suggests that very little by way of stimulation is happening in classrooms, and that there is a tendency towards offering a "watered-down" grade 1.[27] Several of these issues speak to the concern around the conceptualisation of grade R and of what learning at this level entails.

Conceptualising grade R

Grade R is positioned between Early Childhood Development (ECD) programmes (ages 0 – 4) and the start of formal schooling in grade 1. Conceptualising what learning consists of in grade R is unclear and contested. ECD is rooted in informal and structured play which focuses on the social, emotional, physical, intellectual, aesthetic and moral development of each child, including gross and fine motor skills. Grades 1 – 3 are focused on the learning of formal curriculum content, and crucially on the development of domain-specific learning of reading, writing, counting and calculating. A dichotomy is often invoked in the literature between a more developmental, play-based pedagogy and one that focuses primarily on emergent literacy and numeracy (in places referred to as an "instrumentalist approach").

Perhaps one of the reasons why these are presented as mutually exclusive is the idea of grade R as a watered down version of grade 1, and the perception that there is a drift towards formalism (i.e. a domain-specific approach) in grade R classrooms. Although there is little evidence of the latter, it is clear that managing the relation between play and domain-specific learning is a challenge both conceptually and potentially in practice. It may be useful to think of play as a necessary pedagogical strategy at this level, referring to *how* children learn. Structured play is always deployed,

Figure 12: The policy mandate for care and support within the schooling system



Source: Department of Basic Education (2012) *Care and Support for Teaching and Learning: Creating an enabling environment to improve learning outcomes*. Presented at the 5th South African AIDS Conference Durban, 9 June 2012.

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A print-rich environment supports the development of literacy and numeracy skills.

however, in relation to a *what* – either domain-specific knowledge or the development of certain cognitive and social skills. Both the "what" and the "how" need attention, and their relation needs to be made clear.

Currently clear specification of the "what" and "how" is lacking in both the Curriculum Assessment Policy Statements documents (especially in terms of what and why structured play should be included) and in training stipulations for teachers. It is worth bearing in mind that the international and South African literature shows emphatically that early literacy, including exposure to reading, pictures and the mediation of text by an adept reader, are primary determinants of later school success.[28] This is particularly important for children who have not acquired the rudiments of literacy in the way that middle-class children do through long-term exposure to reading, books and a print-rich environment in the home. The development of emergent literacy should therefore lie at the heart of both the "what" and the "how" in the earliest years.

In sum: Play is a necessary *pedagogy* at this level, which should not undermine the teaching of domain-specific *curriculum* contents. At the same time, a more formal, direct mode of instruction should not obscure the learning and developmental affordances for young children of learning through play. This in turn would require very clear specification of *what* should be taught and *how*, especially for teachers who lack experience, training or understanding in the developmental, pedagogical and knowledge requirements of learning at this level.

What is needed to enable learning in the foundation phase?

Across the literature there is consistency in what is problematic and what is required to enable better quality learning in the foundation phase (grades R – 3).[29] A number of the main issues have been raised already. In addition, there are significant gaps in relation to grade R policy. For example, the South African Schools Act has yet to be amended to make grade R a compulsory part of schooling, and the law's norms have not been amended to provide for grade R posts. These gaps mean that a very fragile system is in place for practitioner recruitment, remuneration and retention.

Comprehensive and integrated services for young children

There is a broad literature that draws attention to the nutrition, health, safe transport and after-school care of young children in grade R.[30] In response to these challenges the Department of Basic Education has introduced the Care and Support for Teaching and Learning[31] framework, which uses schools as "nodes of

Case 11: The Gauteng Literacy and Mathematics Strategy (GPLMS)

Now in its third year, this initiative of the Gauteng Department of Education works with schools that performed particularly poorly on the Annual National Assessmentss (ANAs). The GPLMS model draws on four key elements:

- Supporting teaching and learning through the use of trained coaches and provision of lesson plans and materials.
- Supporting the use of school-based assessment and ANAs to improve learner performance.
- Providing a programme of extra school support, particularly for homework assistance.
- Offering school management support to district officials and members of school management teams.

A central feature of the GPLMS is the use of lesson plans, which are carefully aligned with the Curriculum Assessment Policy Statements to address the problem of very slow pacing in schools. The project commissioned the publication of 16 sets of graded readers in each official language and a customised set of mathematics materials for learner use.

Reliable data on the impact of the GPLMS are not yet available. However, certain test data are encouraging and indicate that the GPLMS might be having a positive effect on learner literacy, even at this relatively early stage of the programme. Although the scripted nature of the material is not beyond criticism, it appears to be positively received in schools, in particular where teachers were previously unsure of what to teach and what resources to use on a daily basis. The programme has also improved monitoring of teaching and a heightened awareness of the foundation phase at head office. The support and monitoring of teachers at district level remains a weakness.

care and support" for the most vulnerable children and families. CSTL aims to address barriers to learning by using schools as a site for the delivery of a range of primary health care, nutrition and psycho-social support services and promoting greater parental involvement, represented in figure 12 on p. 74.

The emphasis is on comprehensive and integrated services for young children including the provision of food, health care, affectional care, stimulation and early learning activities.[32]

In 2013 the Department of Basic Education reported exceeding its targets for school feeding and the screening of learners at school and district level.[33] On these two measures, at least, there appears to have been some success in creating a more enabling environment. However it is unclear whether a full range of support services is reaching all learners in need – especially those in the most remote (and disadvantaged) rural areas. In addition, data for the screening and broader care and support of the youngest learners in the system specifically are not available.

Professional development

Grade R teachers are overwhelmingly under-qualified, with preliminary research showing that the majority only have a matriculation without exemption.[34] Further, there is a lack of cohesion and articulation between different ECD qualifications and a clear career path for ECD practitioners has not been mapped out in relation to existing and new qualifications. The fact that the South African Council for Educators registers level 5 practitioners, which would include most grade R teachers, shows signs of moves to professionalise teaching at this level. Grade R training, qualifications and remuneration have, however, still to be fully integrated into the education post structure. It will take some time to fulfill the new minimum requirements for teacher education which propose a level 6 diploma in grade R.[35] Finally, questions have also been raised regarding the capacity to train new teachers given the rapid scale-up of grade R.

It has become clear across the system that teachers know little more about the subjects they teach than the curriculum expects of their learners, and that some teachers know considerably less than this.[36] In particular, a vast number of teachers don't know how children learn to read, and consequently don't know how to teach reading.

There is a growing call to move beyond generic training of teachers towards intensive and *targeted* training.[37] In the foundation phase, training should be focused on the development of reading and writing and number concept, with a focus on difficult topic areas and how to teach these. Training needs to be intensive and ongoing as opposed to once off.[38] For grade R, specifically, teachers need to understand the cognitive and physical development of young children, the logic and basis for structured play as an important pedagogy, and the curriculum requirements regarding emergent literacy and numeracy knowledge and skills.

Case 12: Improving the quality of mathematics and science in grade R classes

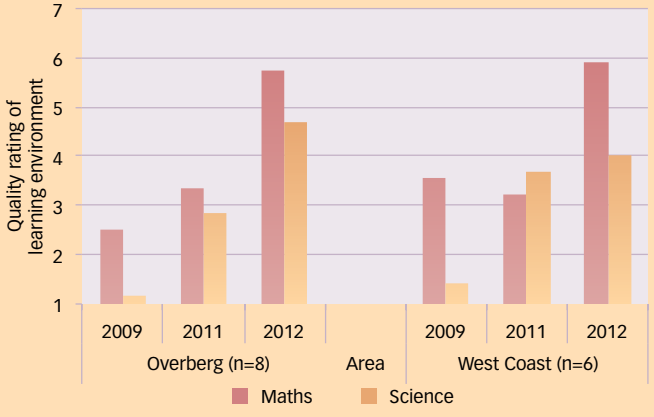
A three-year intervention to improve the quality of maths and science learning was piloted by the Early Learning Resource Unit[iv] in a sample of 51 community and public grade R classes in the Overberg and West Coast districts in the Western Cape. Challenges identified at baseline were the lack of educator knowledge and resources, especially in relation to science and a focus on number rather than the other learning outcomes for mathematical learning.

Each year, participating educators received 15 days of training, three site visits to support implementation, and resources. A series of science- and maths-focused children's books and educator guides were developed for use in the pilot. Participants also visited places of interest such as museums and nature reserves to develop their understanding of how the natural world is an effective tool for teaching maths and science.

Before there could be a focus on maths and science, the general quality of facilitation, classroom organisation and management had to be improved. Classrooms of 14 educators who participated in the entire pilot were tracked using subscales of the Early Childhood Environmental Rating Scale – Revised and Extended.[40] Results showed overall improvement on classroom organisation, scheduling, interaction, using language to facilitate reasoning and maths and science learning opportunities.

The outcomes confirmed the importance of working on the learning programme as a whole, improving mediation and group work skills, and increasing educator confidence in the subject area. Developing these capacities required sustained inputs over the period.

Figure 13: Quality of maths and science learning environments including materials and activities, 2009, 2011 & 2012



iv As part of the Systemic Education and Extramural Development and Support Programme funded by the Kingdom of the Netherlands.

Conclusion

There have been substantial gains in political and budgetary commitment to grade R, and there is now near-universal access to formal schooling across the foundation phase. Research shows that early educational intervention can make a significant difference to children's later life chances. This difference, however, depends on the *quality* of the educational experience. The quality of children's learning experiences from grades R – 3 is critical and needs to be seriously addressed before the National Planning Commission's suggestion of a pre-grade R is even considered.

This includes recognising that:

- Teachers are pivotal in providing good quality instruction to children. Serious attention needs to be given to developing foundation phase teachers' content knowledge in mathematics and language, and assisting them in *how* to teach reading, writing, counting and calculating. The Gauteng Literacy and Mathematics Strategy (see case 11 on p. 75) and the SEEDS maths and science study (case 12) in rural Western Cape provide useful lessons in how teachers can be supported and developed.
- Grade R needs to be clearly conceptualised. The relationship between grade R, prior early learning and formal schooling needs to be better understood and managed at all levels of the system. This includes clear guidance for teachers so they understand the "what" and "how" of teaching and learning at this level. Good, targeted training would help, as would clearly stipulated curriculum guidance, written in plain language that teachers can easily access.
- Educational interventions are only part of the solution. Family background remains the most powerful influence on how children will fare in school. Many of South Africa's children enter formal school with their developmental potential considerably compromised, and with limited attention to their physical and psychological well-being, which affect their ability to learn. It is therefore important to find ways to secure the nutrition, health, safe transport and after-school care of young children in the foundation phase, in addition to improving the quality of teaching and learning.

Early schooling has the potential to either reproduce current inequalities, or interrupt cycles of disadvantage. It is therefore imperative that a solid foundation and quality learning experiences are provided for our youngest learners.

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