GRADE R IMPACT ON LEARNING OUTCOMES

DBE
26 November 2015
1. Expansion of Grade R programme
2. Methodology
3. Findings
4. Recommendations
5. Progress on Improvement plan
In 1995, White Paper 1 on Education and Training proposed the establishment of a national system of provision of a compulsory reception year.

National Early Childhood Development Pilot Project which was launched in 1997

The ECD Conditional Grant was introduced in the 2001/02 financial year with the aim of extending the provision of a reception year programme

In 2002 less than 40% of 5-year-olds in South Africa were attending an educational institution. By 2011, this figure had risen to over 80% and it is still rising.

Between 2001 and 2012 the numbers enrolled in Grade R programmes at ordinary schools increased more than threefold, from 242 000 to 768 000.

Now, more than 90% of grade 1 children attended Grade R.
Literature Review

- A person’s life trajectory is established very early;
- Family wealth matters for young children; and
- It is possible to intervene effectively & to improve the trajectories of young children, but the later the remediation, the less effective it is.
3 METHODOLOGY

• Part of DPME’s NEP
• University of Stellenbosch was SP
• Purpose:
  • Evaluating the effectiveness of Grade R by looking at learners who have and have not attended Grade R.

  – Key questions:
  • Has Grade R made a difference to learner performance?
  • Are learners more ready for Grade 1 because of Grade R?
  • Who is benefiting most from the programme – poorer or more affluent parts of the population?
  • What are the immediate benefits, if any, of Grade R?
  • Are there longer term benefits to attending Grade R?
4 METHODOLOGY (2)

• Large Dataset
  – 18102 schools

• Use existing data:
  – ANA provides data on performance in maths and home language for Grades 1 to 6;

• EMIS provides school quintile and school fees
  – School fees in 2007 provide a measure of affluence and resources

• Large datasets allows more precise estimation of effect sizes

• Only cost R300k as could use existing data
Measuring treatment

Treatment measure: % of learners in a given cohort that attended Gr R

Limitations:

• School may provide Grade R to a wider catchment area, i.e. learners move to other schools after Gr R
• Ratio exceeds 100% in some cases; we top censor these measures to be at most 100%
• Some Gr X learners may have attended Gr R at another educational facility
• Where data for Grade R are missing, we assume no treatment
Average treatment by school quintile and grade
Determining *causal* impact

• Other factors may also influence outcomes
  – Some we can control for (e.g. SES) – Observables
  – Others we cannot – Unobservables

• Example: Factors that could affect both treatment and learning, e.g.:
  – Better managed schools may more easily introduce Gr R, and would usually have better learning outcomes
  – Departments may encourage weaker schools more to introduce Gr R

• Solution: school fixed effects model
Interpreting effect sizes

• Treatment effects are measured in standard deviations (SD) of test scores
  – Coefficients on the treatment variable reflect the effect of a change from zero treatment to full treatment, i.e. from having no children attending Grade R to having all children attending

• International literature assumes that a year’s learning improves test scores by ± 40% to 50% SD
  – But NSES data indicate SA learning might only be 33% SD in a year (less than 18% in weakest 3 provinces)
Effect of treatment (fixed effects model)

• Maths score +2.5% of a standard deviation (SD) for 2012 sample
• Home language score +10.2% SD
  – Assuming 40% SD to be equivalent to one grade level in school, this is equivalent to
    • 6% of a year of learning in maths, or what average learner should learn in 12 days (if a school year is 200 days of instruction)
    • 25% for home language, or 50 days of learning
  – No clear evidence of fade-out
• Quite small effects:
  – A review of programmes in USA found average effects on cognitive outcomes of 42% SD
  – Oklahoma’s high quality universal preschool programme saw
    • an 80% SD gain in pre-reading and reading skills
    • a 65% SD gain in pre-writing and spelling skills, and
    • a 38% SD gain in early math reasoning and problem-solving
  – In Argentina, one year of pre-primary increased average third grade test marks in maths and Spanish by 23% SD
SA effect sizes in comparison (in % SD)

- Argentina Gr 3 Maths & Spanish: 23
- Oklahoma early maths reasoning: 38
- Oklahoma pre-reading: 65
- Oklahoma pre-writing & spelling: 80
- US average preschool: 42
- One year of learning: 40
- Home Language: Q1: 1.7
- Home Language: Q2: 7.7
- Home Language: Q3: -0.2
- Home Language: Q4: 11.5
- Home Language: Q5: 19.4
- Home Language: All: 10.2
- Maths: Q1: 1.5
- Maths: Q2: 0.0
- Maths: Q3: -0.8
- Maths: Q4: 10.1
- Maths: Q5: 20.3
- Maths: All: 2.5
6 FINDINGS ABOUT GRADE R IMPACT

• Dataset enables estimation of effects with great accuracy

• Grade R has had a positive impact on **learning**
  - Effects may be lasting: little sign of fade-out (decay) in higher grades
  - Channels not clear, however (e.g. role of nutrition/school feeding)
  - **Negligible effects in bottom quintiles**

• Effects stronger for better performing provinces & for higher quintiles: they share characteristics in programme delivery that have a positive impact

• Thus **programme quality** needs to be prioritised
7 RECOMMENDATIONS

• Address the funding levels and tracking of funding at school and provincial levels;
• A quality year of preschool is critical to effectively manage the transition to Grade 1; and
• Grade R curriculum has key role to play in closing the gaps
  ▪ Indicators which reflect elements of quality Grade R need to recognise the critical importance of mediated language enrichment
  ▪ Provide on-going structured curriculum support for teachers in implementing CAPS, with practical ideas on ‘how’ to achieve learning outcomes
  ▪ Increase opportunities for in-service training focused on providing teachers with practical strategies for supporting early learning & opportunities to see & practice best teaching
  ▪ Develop/evaluate evidence-based learning programmes & resources designed for the local context & appropriate for children from poor backgrounds.
<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>PROGRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interim Grade R policy</td>
<td>Developing regulations; Amendment of SASA</td>
</tr>
<tr>
<td>Human resource development strategy</td>
<td>A Training and Curriculum sub-committee; Audit of capacity.</td>
</tr>
<tr>
<td>Support curriculum implementation in all Grade R classes</td>
<td>• Established a Foundation Phase Subject Committee.</td>
</tr>
<tr>
<td></td>
<td>• Aligned the Grade R resource pack to the National Curriculum Statement.</td>
</tr>
<tr>
<td></td>
<td>• 3 700 980 Grade R workbooks were delivered to 16 063 schools.</td>
</tr>
<tr>
<td></td>
<td>• Grade R resource packs aligned to CAPS have been distributed to Grade R classes in public schools.</td>
</tr>
<tr>
<td></td>
<td>• Training of Grade R practitioners towards the Level 6 qualification.</td>
</tr>
<tr>
<td>Monitoring and evaluation system</td>
<td>Under construction.</td>
</tr>
</tbody>
</table>
Thank you