



Three levels of analysis from large-scale research on interventions to improve literacy in South Africa

Quantitative RCT findings: UKFIET, September 2017
Cas Prinsloo and Nompumelelo Mohohlwane





Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sportontwikkeling
Lefapha la Thuto le Tlhabololo ya Metshameko

NORTH WEST PROVINCE



basic education

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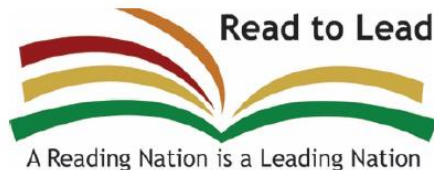
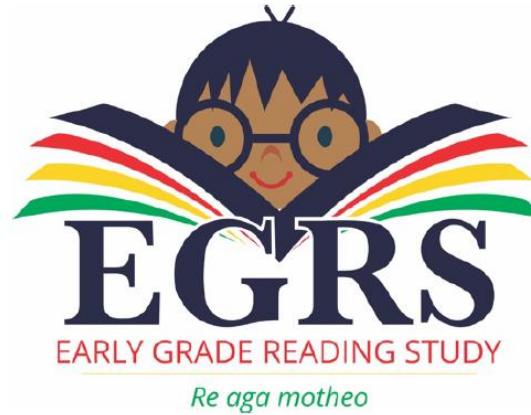


planning, monitoring & evaluation

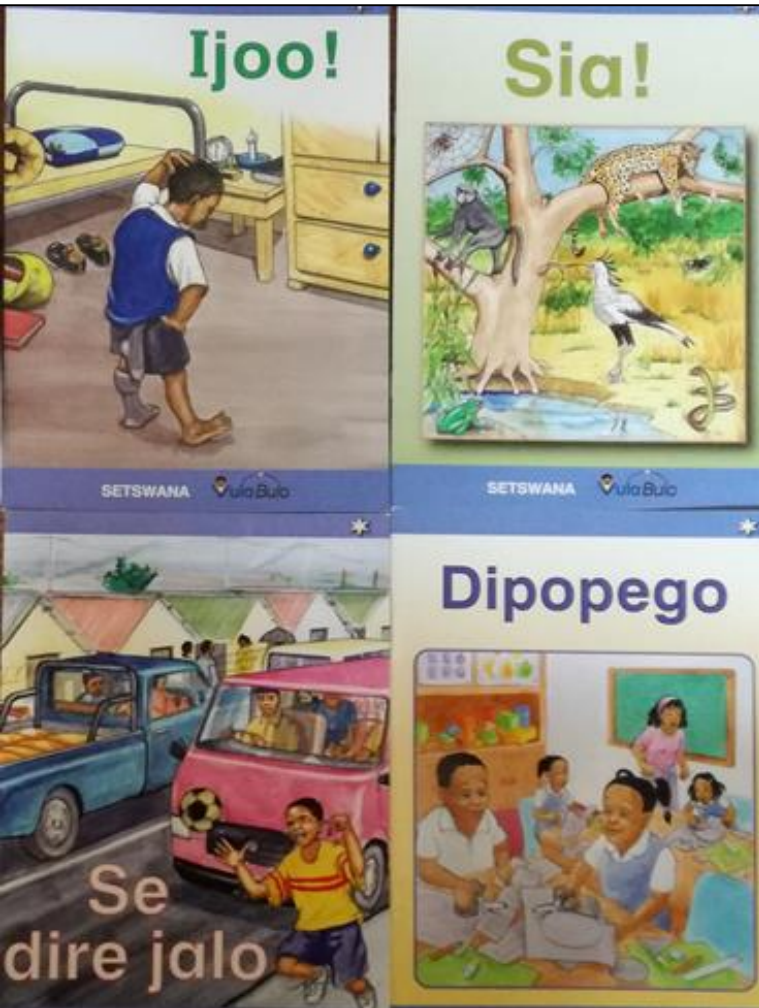
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Motivation Behind This Project



- Reading is at the heart of the *quality* challenge in SA
 - **58%** of children not learning to read by grade 4 (Pre-PIRLS)
 - **Root cause** of school dropout in grades 10-12
- Robust impact evaluation
- Exploring mixed methods research for system-wide policy
- Developing partnerships – led by government

Sample: 230 schools in North West

3 Interventions targeting HL literacy (Setswana)

Control group (80 schools)	“Training” Lesson plans, reading materials + central teacher training (50 schools)	“Coaching” Lesson plans, reading materials + on-site coaching (50 schools)	“Parent Involvement” (50 schools)
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2015: Grade 1

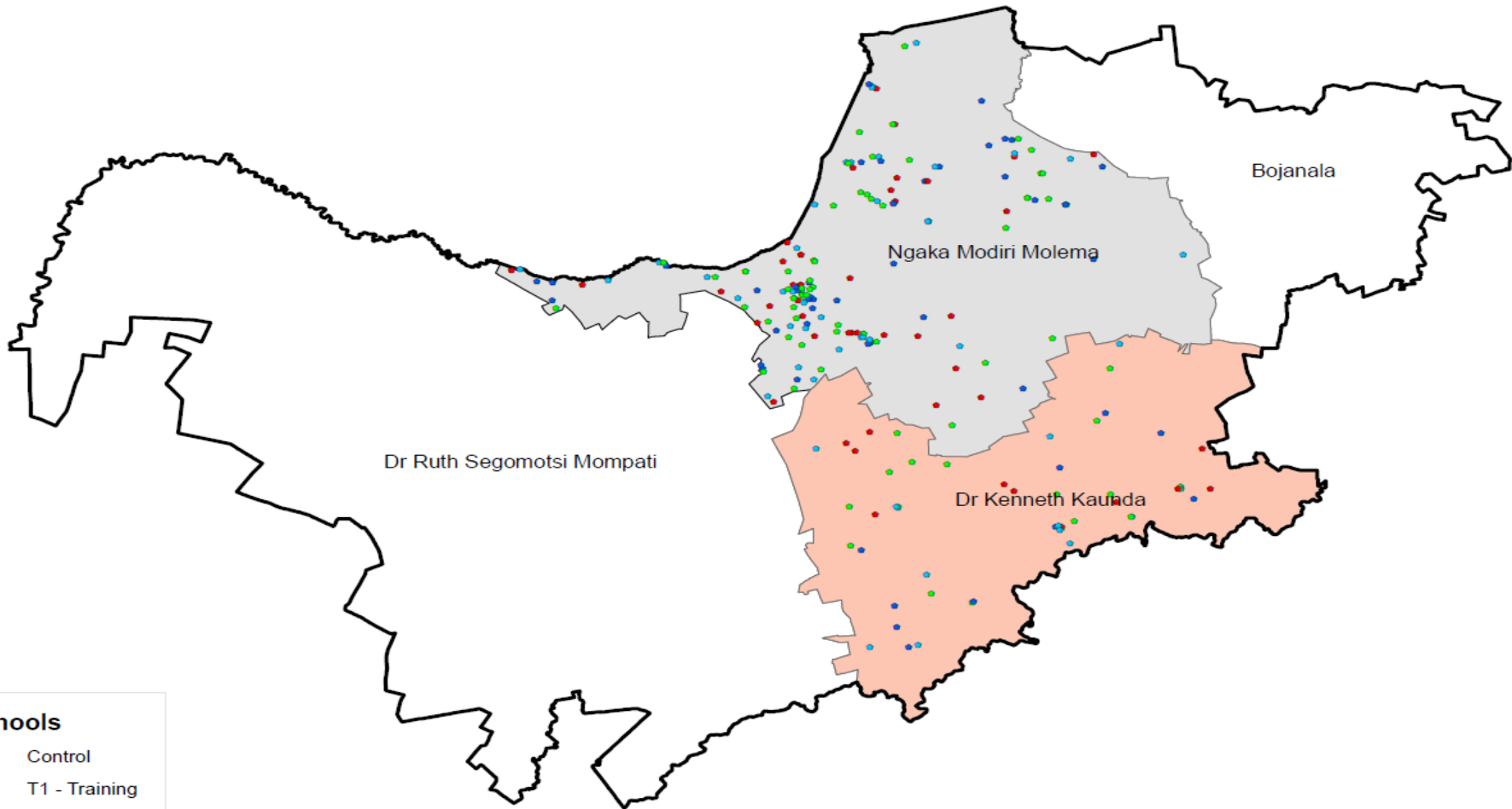
2016: Grade 2

2017: Grade 3 (Interventions 1 and 2 only)

3 waves of data collection

- Wave 1: “Baseline”
 - Start of Grade 1, Feb 2015
 - Randomly sampled 20 learners per school
- Wave 2: “Midline”
 - End of Grade 1, Oct/Nov 2015
- Wave 3: “Endline”
 - End of Grade 2, Oct/Nov 2016
 - Included those repeating grade 1

Sample: 230 schools in North West



Schools

- Control
- T1 - Training
- T2 -Coaching
- T3 - Parents

Theory of change: I1 & I2

- CAPS-aligned structured learning programme:
 - 1. Lesson Plans:**
 - Improve curriculum coverage, pacing and sequencing
 - Facilitate adoption of new instructional methods and increase the teacher's repertoire
 - (knowing ↔ doing)
 - Can ensure usage of additional resources
 - 2. New resources:**
 - Allow quality implementation of pedagogical methods
 - 3. Coaches:**
 - Ongoing contact provides an additional mechanism to implement, evaluate, and re-implement
- But:
 - Reduce teacher autonomy
 - Could stifle differentiated instruction

Empirical backdrop

- **This project builds on earlier work in SA**
 - Systematic Method for Reading Success (Piper, 2009)
 - Triple cocktail of lesson plans, reading materials and coaching showed promise in Gauteng (Fleisch & Schoer, 2014)
- **Structured pedagogic programmes showing positive impacts elsewhere**
 - Highlighted by systematic reviews (Snilstveit et al, 2016; Popova et al, 2016)
 - Kenya (Piper, Zuilkowski & Mugenda 2014)
 - Liberia (Piper & Korda 2011)
- **Various questions remain**
 - Which mechanisms of these bundled programs work?
 - Under which conditions do LP work?
 - Does it depend on the type of monitoring and support?

Theory of change: Parent Intervention

Weekly meetings are held and well facilitated

Parents attend weekly meetings

Parents update knowledge and beliefs

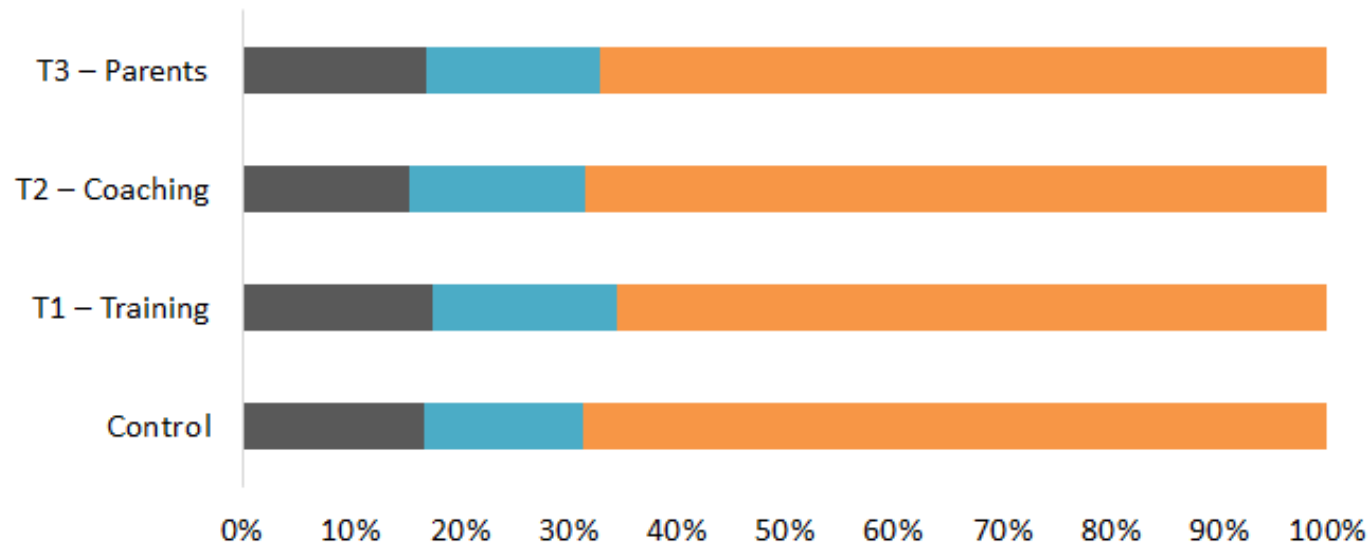
Parents change education support practices

Changed practices at home impact on reading outcomes

Year 2 Results (End of Grade 2)



Attrition & repetition



Attrition

Due to leaving school or to absenteeism

Related to gender, poverty and being in a specific district, but not to learner performance

Repeating Grade 1

Strongly related to grade 1 reading achievement, to being in a specific district and to gender.

In Grade 2

3726 pupils remain in the sample

Orally administered learner assessments



Letter sound recognition

EGRA item: 60 seconds



Word recognition

EGRA item: 60 seconds



Non-word recognition

EGRA item: 60 seconds



Paragraph reading

EGRA adapted item: 60 seconds



Reading comprehension

4 items based on paragraph



Phonological awareness

4 items



Writing

Letter dictation, word dictation, re-writing a short sentence



Maths

2 items



English

8 items: receptive & expressive vocabulary



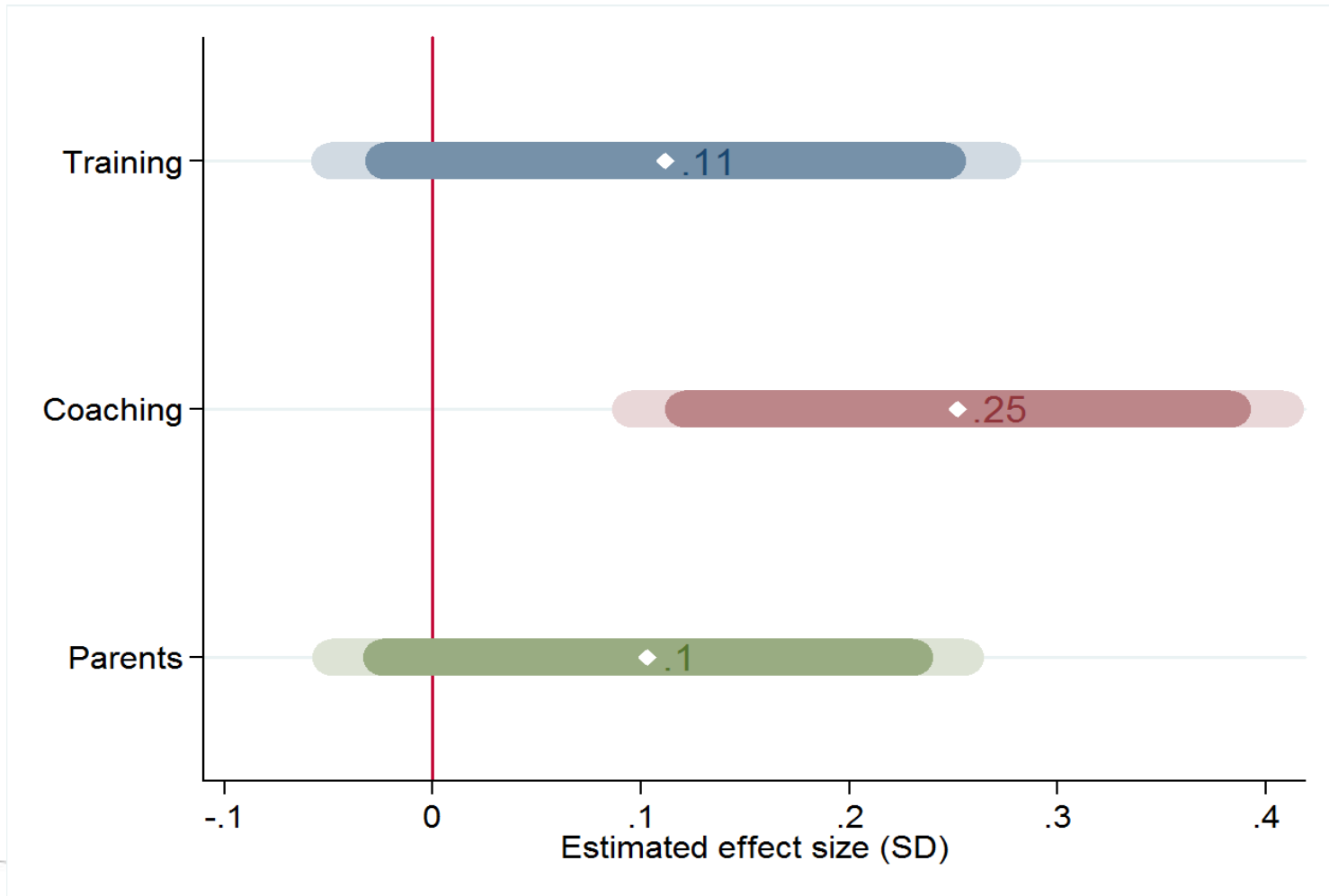
Composite score

Based on a factor analysis

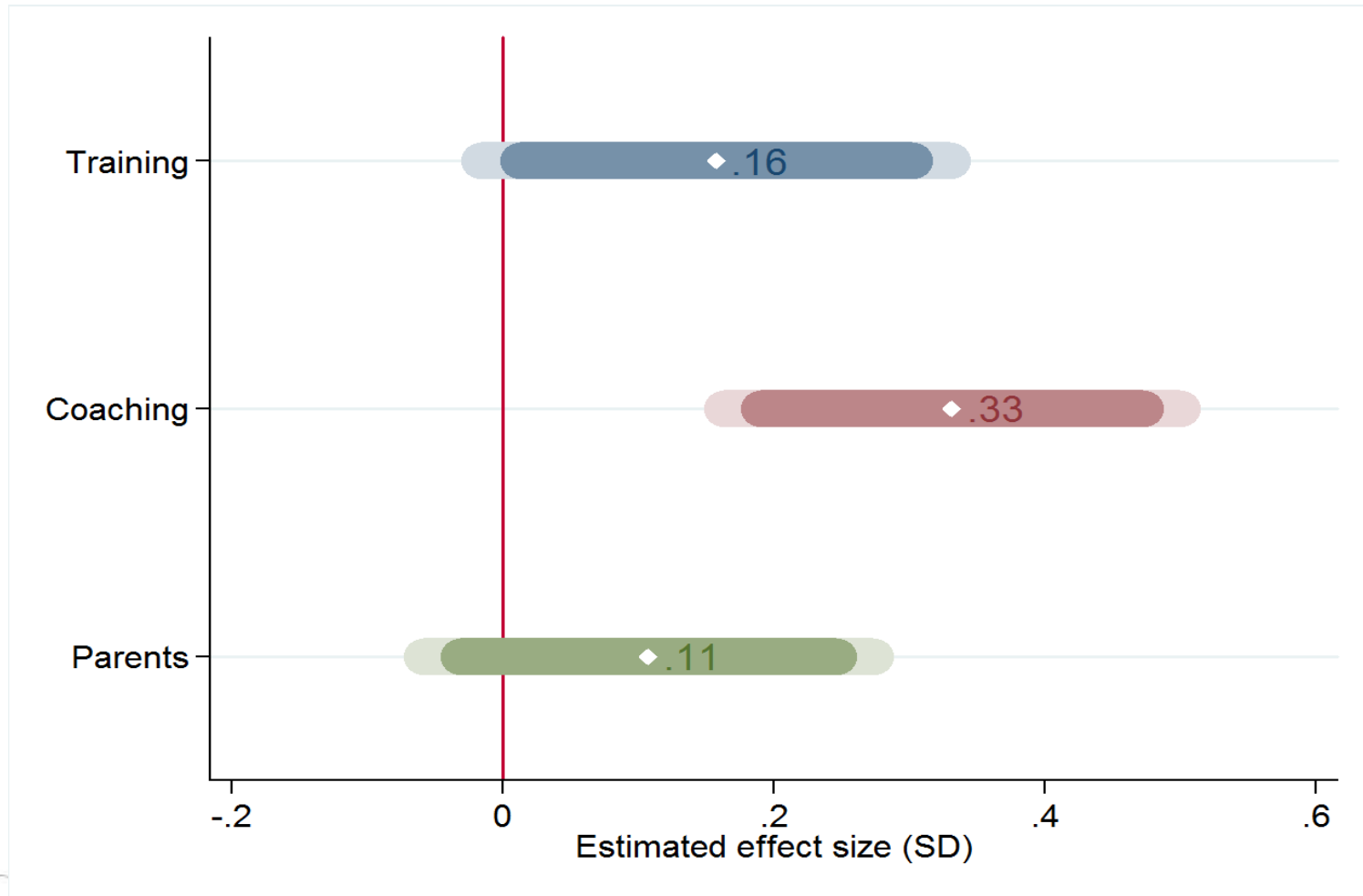
Main results: Multi-variable regression model

- **Reading = function of:**
 - Baseline achievement
 - Gender
 - Age
 - District
 - Community SES
 - **Intervention group**

Main results: Impact including repeaters



Main results: Impact for those with 2 years of interventions



- How large are these impacts?
 - Relative to a year of learning?

Main results:

Impact for those with 2 years of interventions

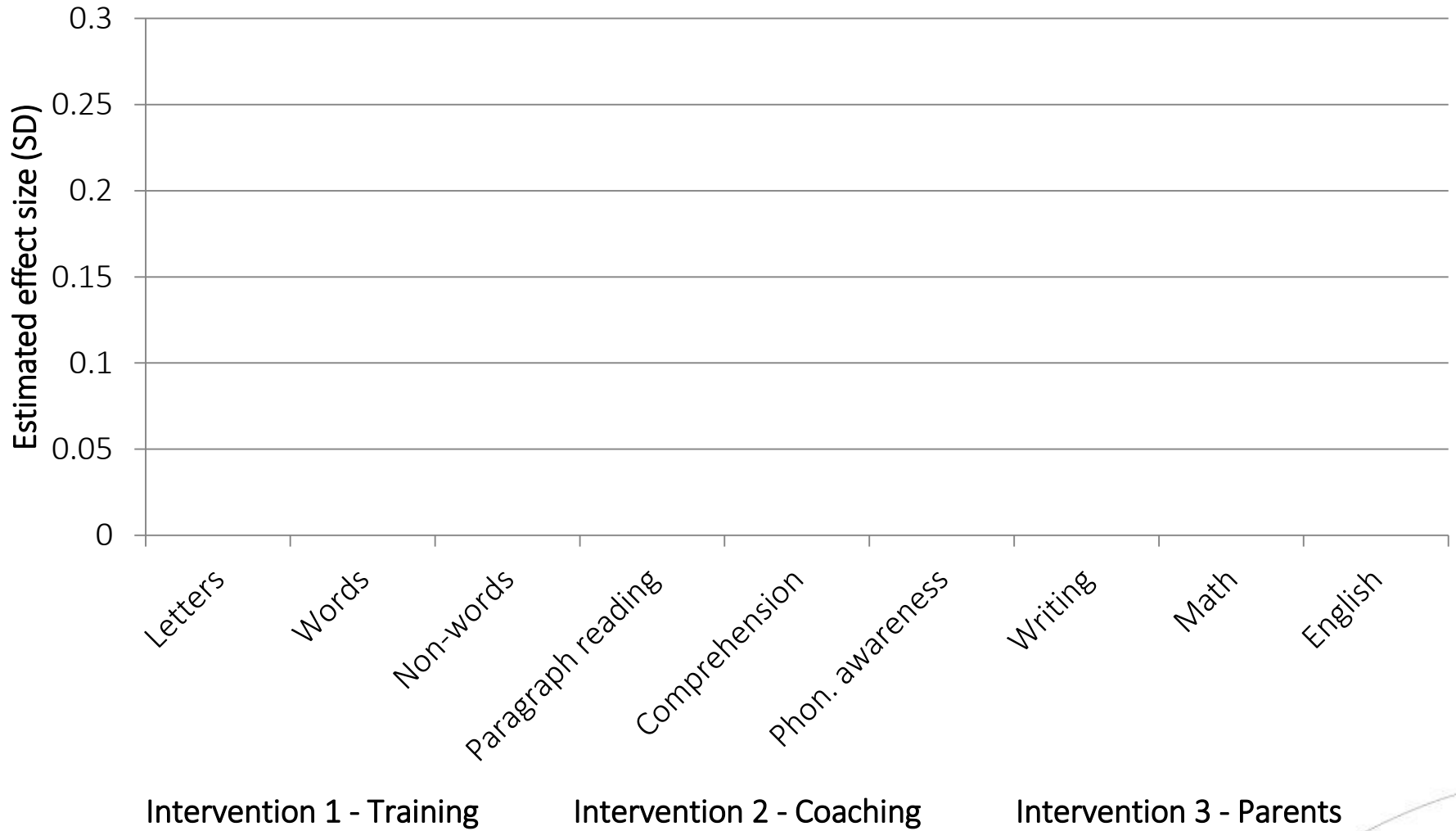
Control: 2 years of school

Training: About **19%** of a year of learning

Coaching: About **40%** of a year of learning

Parents: About **13%** of a year of learning

Impacts on sub-tests

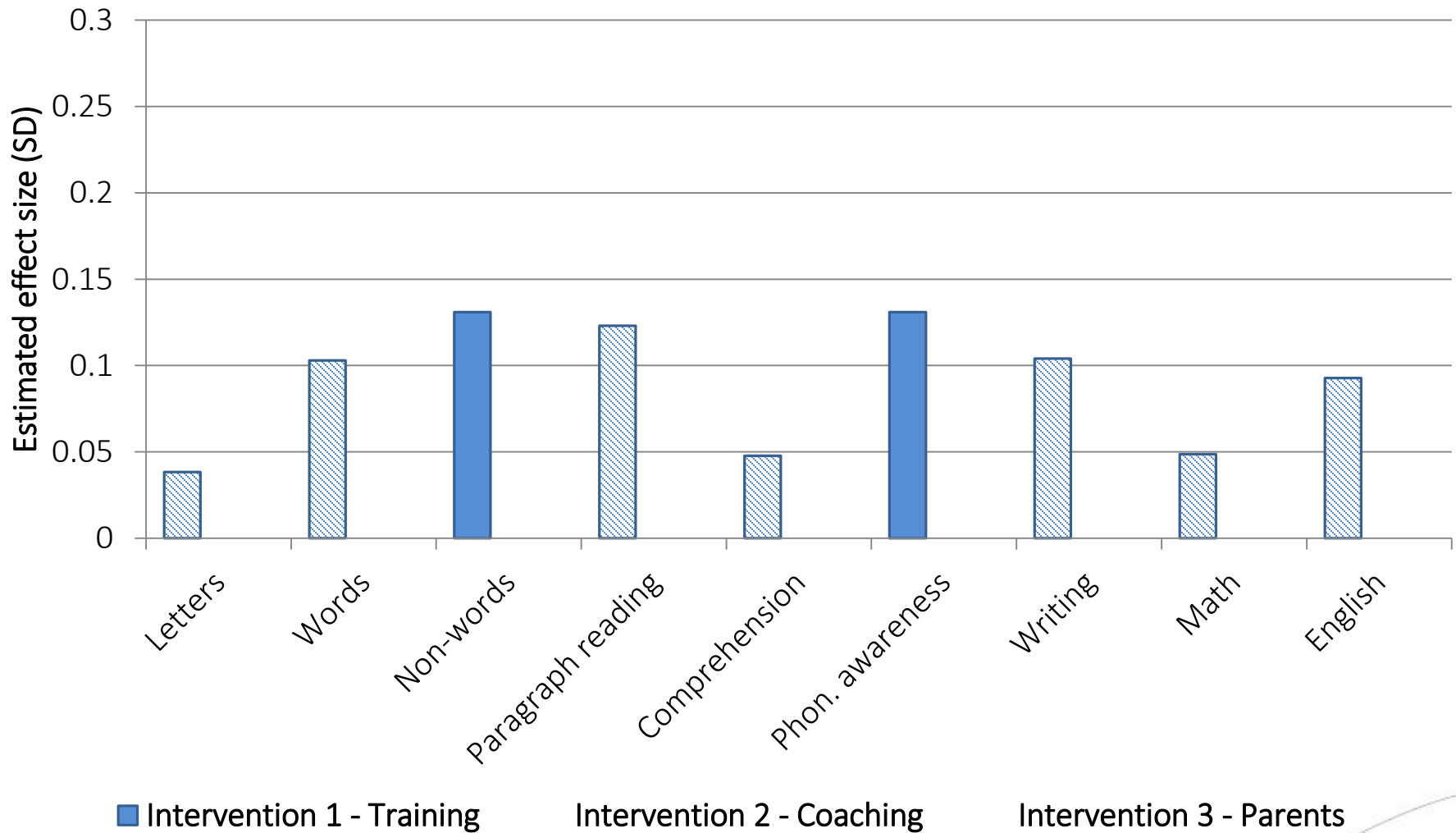


Intervention 1 - Training

Intervention 2 - Coaching

Intervention 3 - Parents

Impacts on sub-tests

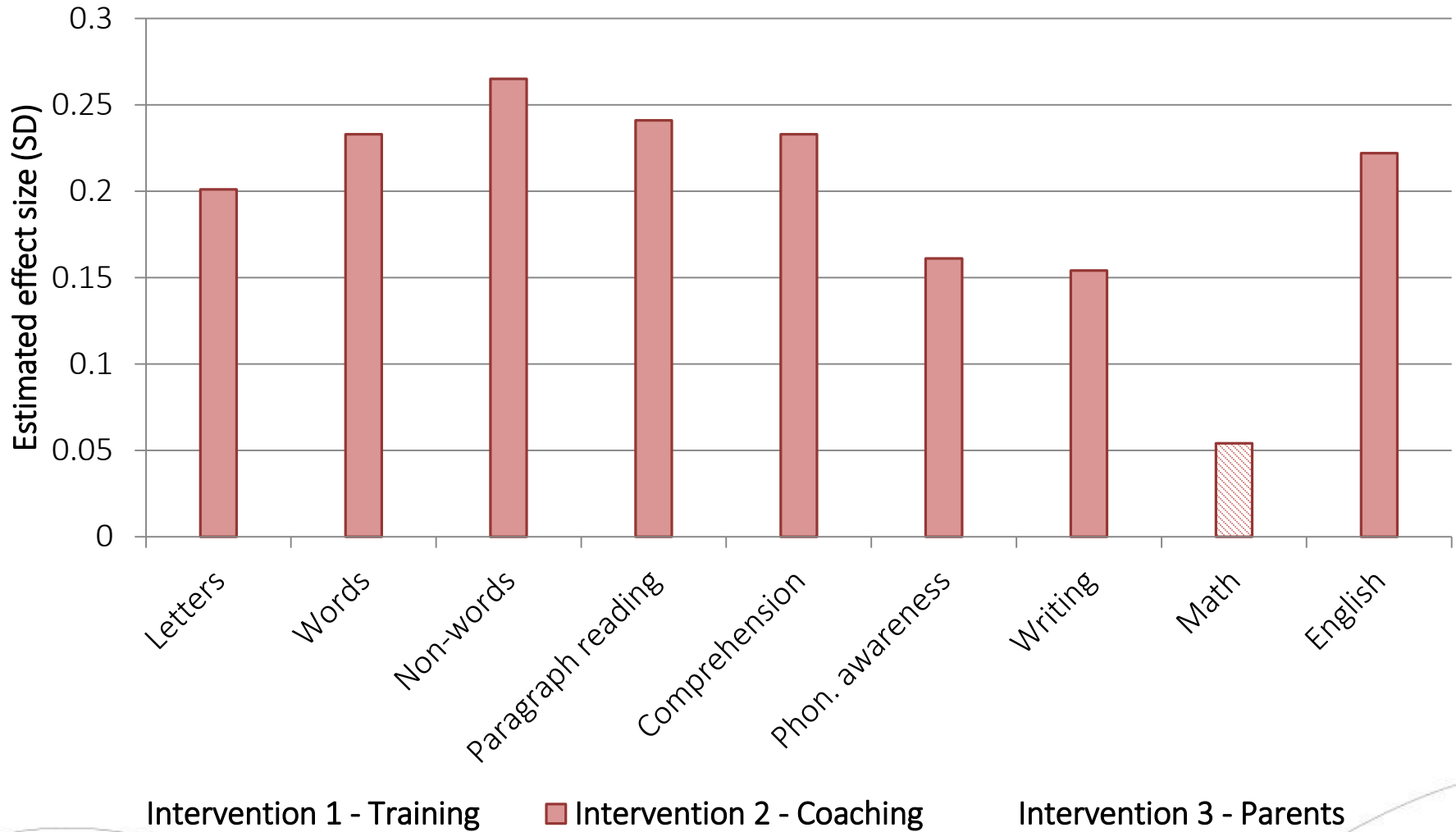


■ Intervention 1 - Training

■ Intervention 2 - Coaching

■ Intervention 3 - Parents

Impacts on sub-tests

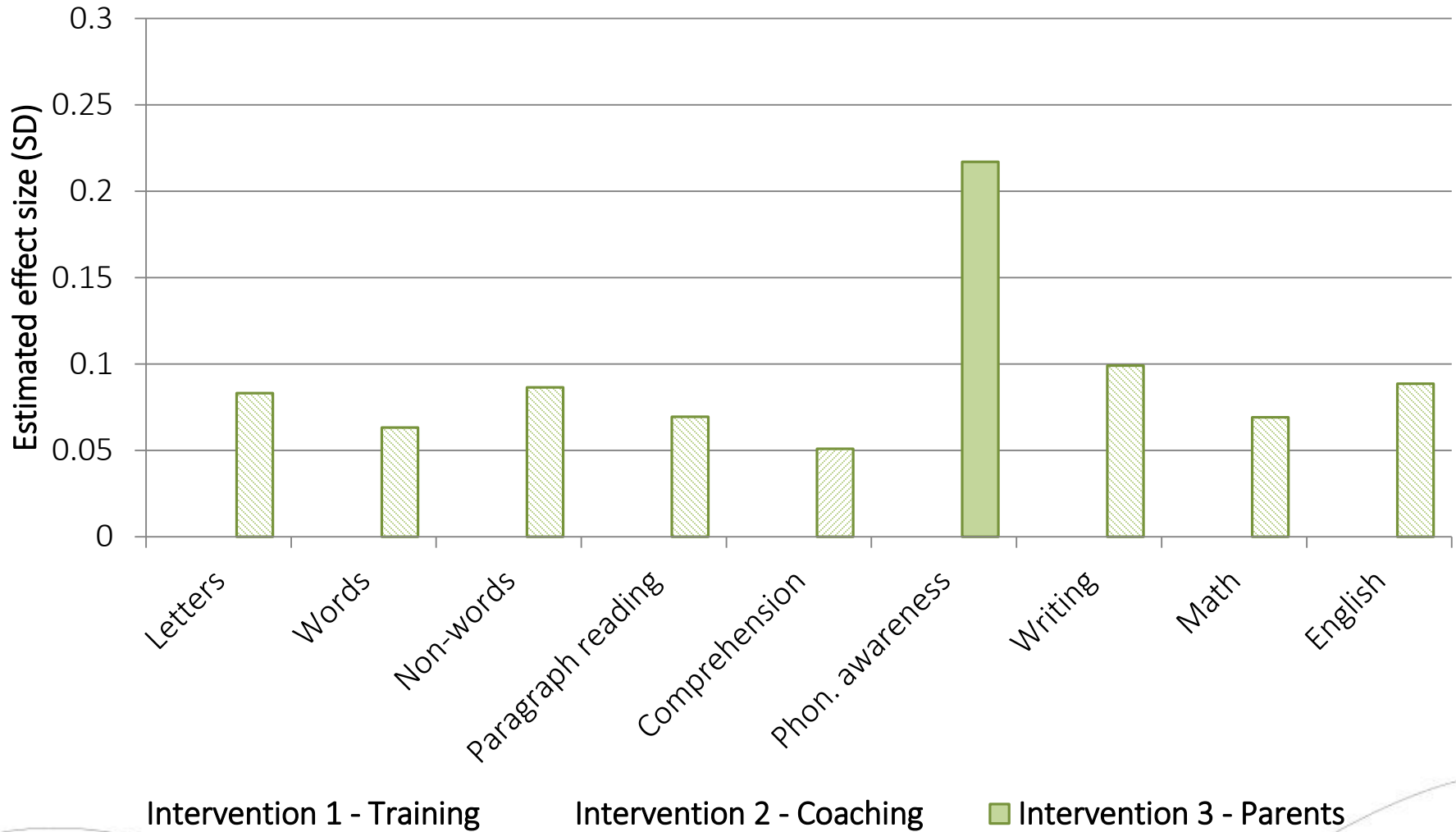


Intervention 1 - Training

Intervention 2 - Coaching

Intervention 3 - Parents

Impacts on sub-tests

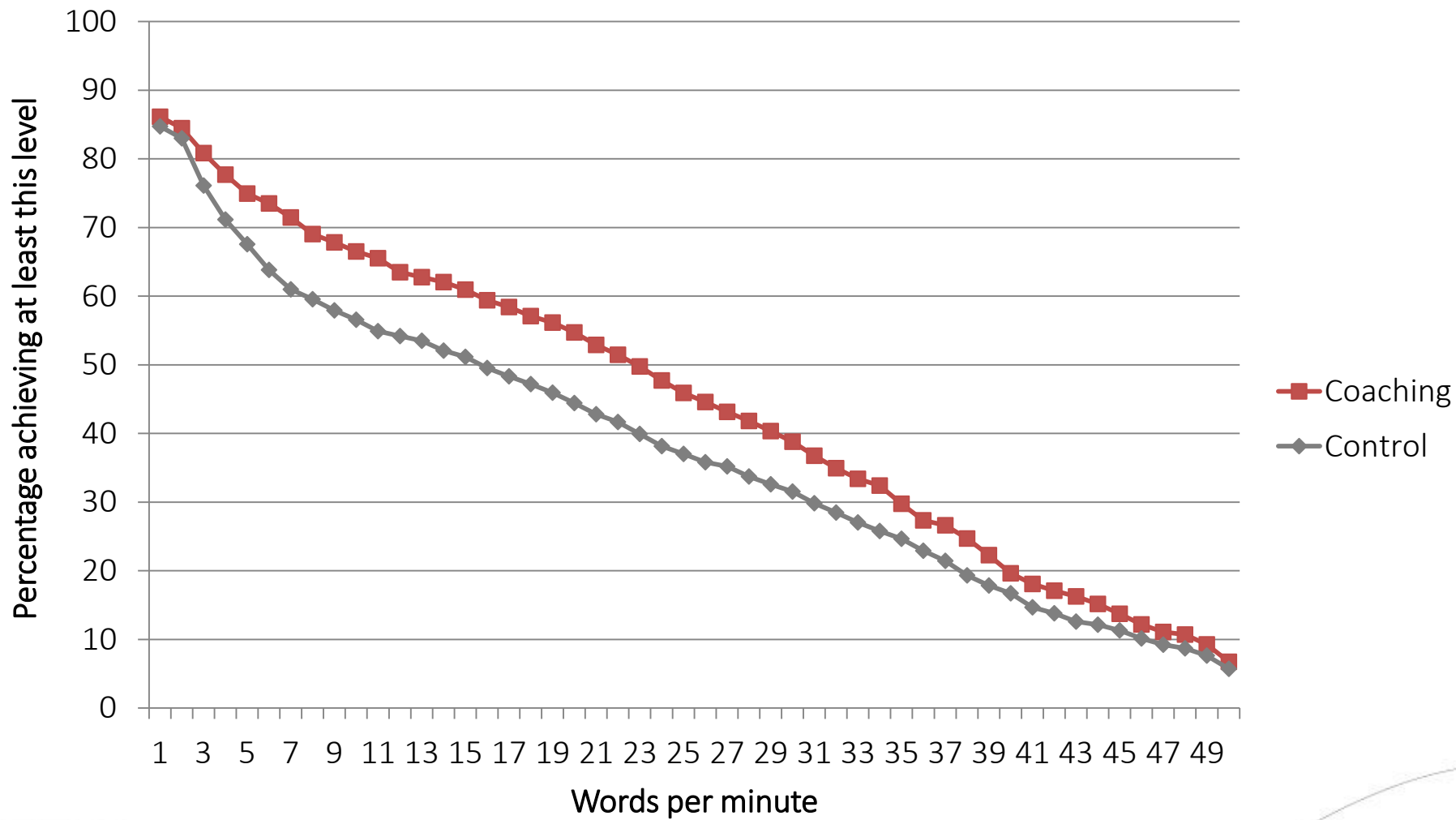


Intervention 1 - Training

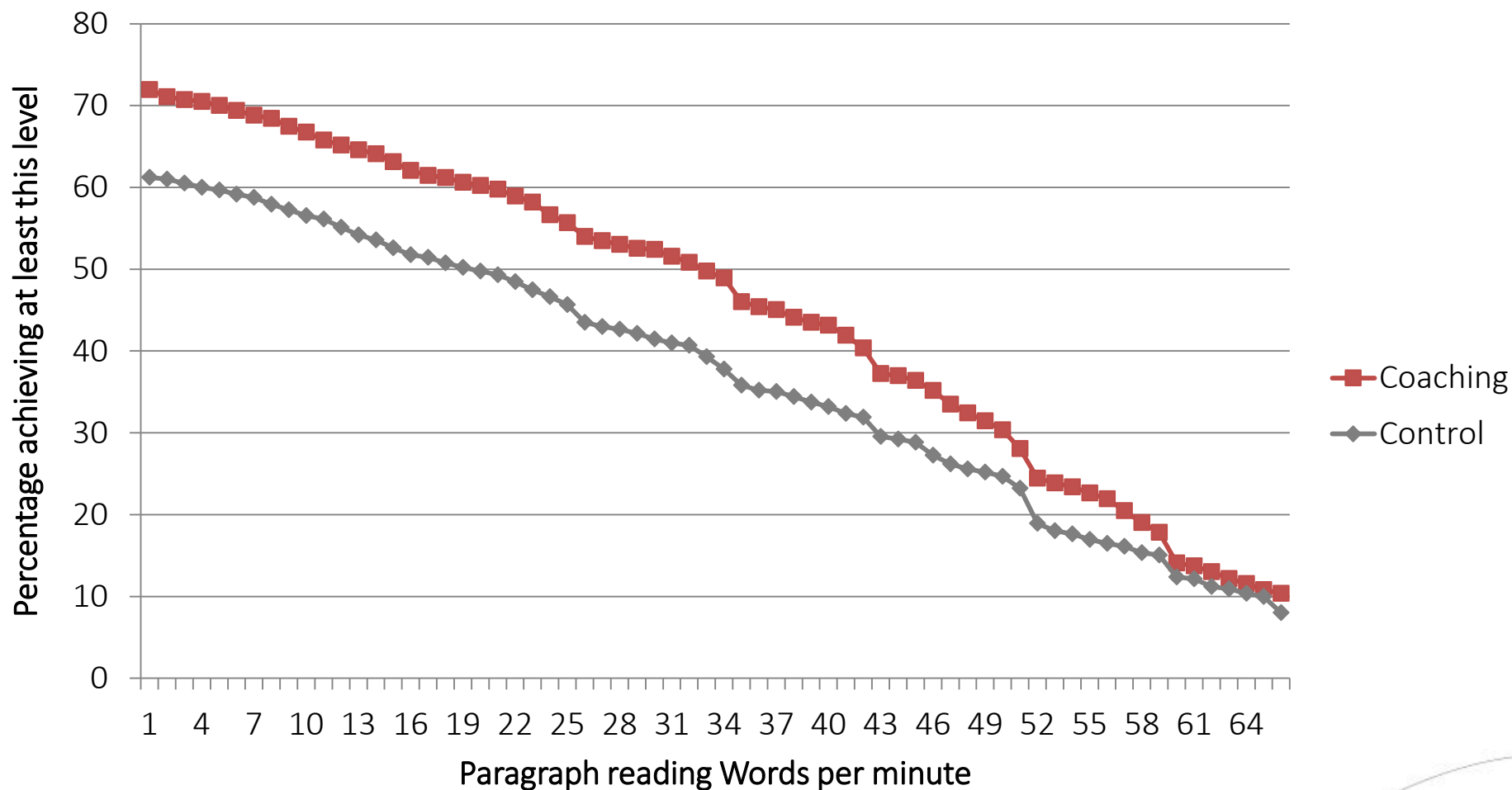
Intervention 2 - Coaching

Intervention 3 - Parents

Word recognition: Coaching and Control



Oral Reading Fluency: Coaching and Control



Who benefits most from the interventions?

- **Boys** catch up to some extent
- **Large-classes** benefited most
- Impact concentrated in **urban schools**

Changes: Teaching practice and Parent behaviour

- Sources of information
 1. **Background questionnaires** in all 230 schools
 2. 60-school **lesson observation study**
 3. **8 case studies**
 4. Class Act **monitoring data**
 - teacher curriculum coverage
 - attendance records of teachers & parents

Changes: Teaching practice

Teachers' experiences of professional support

	Control	Training	Coaching	Parents
"I feel supported and recognised for my work"	53%	62%	82%	49%
"I regularly meet with people who provide mentoring and curriculum support"	52%	57%	84%	45%

Conclusions, recommendations & plans

1. **Structured pedagogic programmes can make a difference:**

- Aligned to the NCS
- With high quality reading support materials

2. **Coaching better than direct centralised training:**

- Scant evidence about effective large-scale teacher support modalities;
- On-site coaching, including modelling of lessons, can be a cost-effective strategy;
- Promotes deeper understanding of the methodologies
- Promotes persistence in sticking to the programme

3. **Direct centralised training better than ‘train-the-trainer’ models:**

- Direct in-service training of teachers (4 two-day workshops over the course of 2 years), is likely to have more impact than “cascade” models (“train the trainers”)

Conclusions, recommendations & plans

4. Existing subject advisers cannot fulfil the role of a coach:

- Low ratio of subject advisors to schools (especially in the Foundation Phase);
- Different recruitment process, oversight structures and modus operandi

5. Prioritize schools for special support:

- On-site coaching interventions could be implemented in priority schools (e.g. 100 or 500 schools in a province)
- The cost for 100 schools would be about R6 million at current prices.

6. Develop reading norms in the African languages:

- Reading norms cannot simply be adapted from one language into another;
- It is a complex exercise requiring longitudinal data.
- The EGRS data could be used

Conclusions, recommendations & plans

7. Learning from EGRS:

- Other large scale intervention initiatives (e.g. NECT) could draw on the lessons of the EGRS and extend successful programmes to selected schools and districts.

8. Parental involvement needs further research & may be promising:

- The catch 22 of parental involvement
- Remains a potentially *cost*-effective intervention

9. Learning what works in deep rural settings:

- Further research is needed to establish what might work in deep rural settings.

Conclusions, recommendations & plans

10. Measuring long-run EGRS impacts:

- Future data collections on the same sample of learners

11. EGRS for EFAL in Mpumalanga:

- EGRS 2 is underway measuring the effectiveness of two alternative interventions on EFAL (USAID funded)

12. Early Grade Mathematics Study:

- EGMS over the next 2 to 5 years, beginning with a scoping study to identify and design promising interventions

Every child is a National Asset

Thank you!

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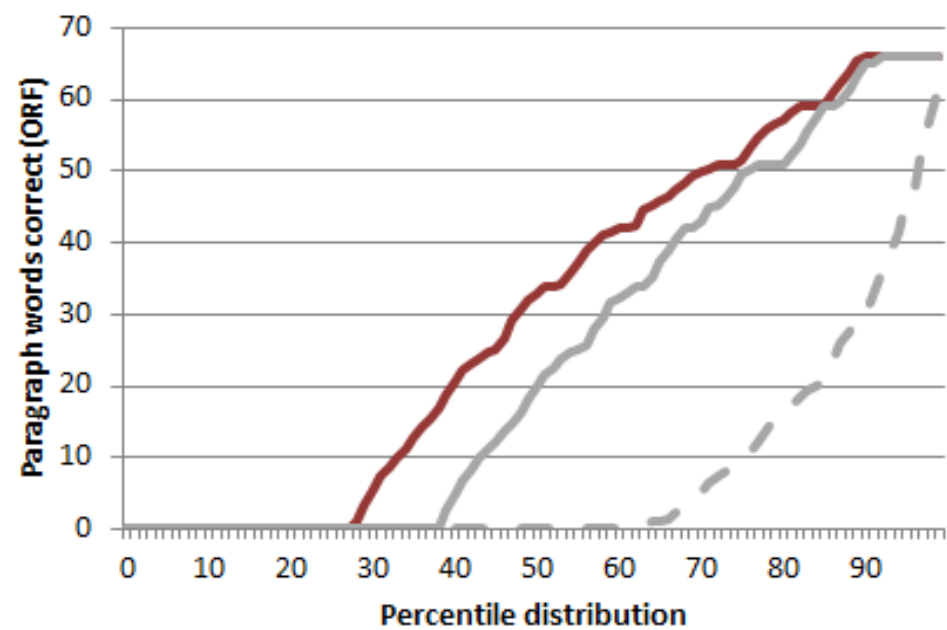
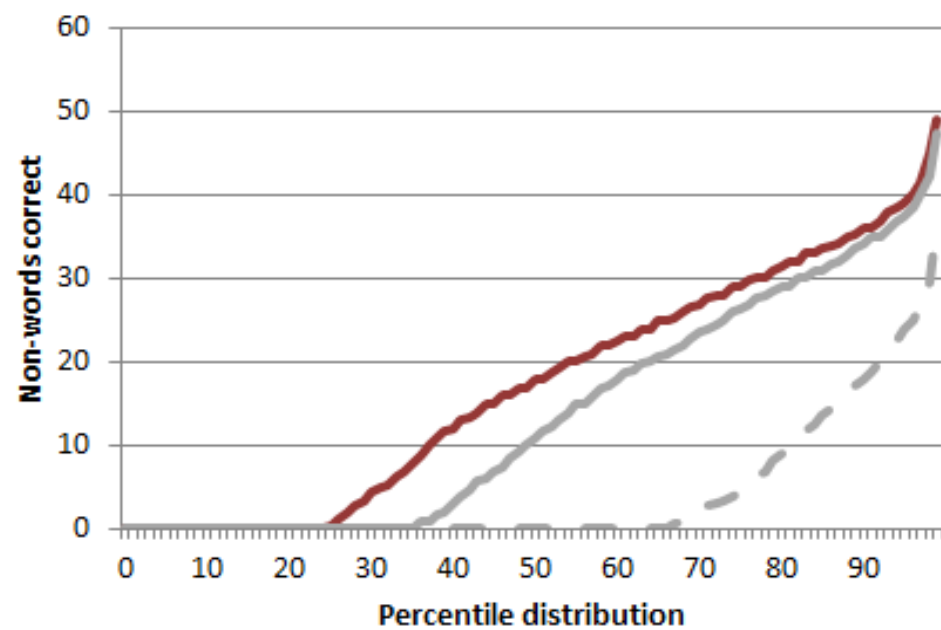
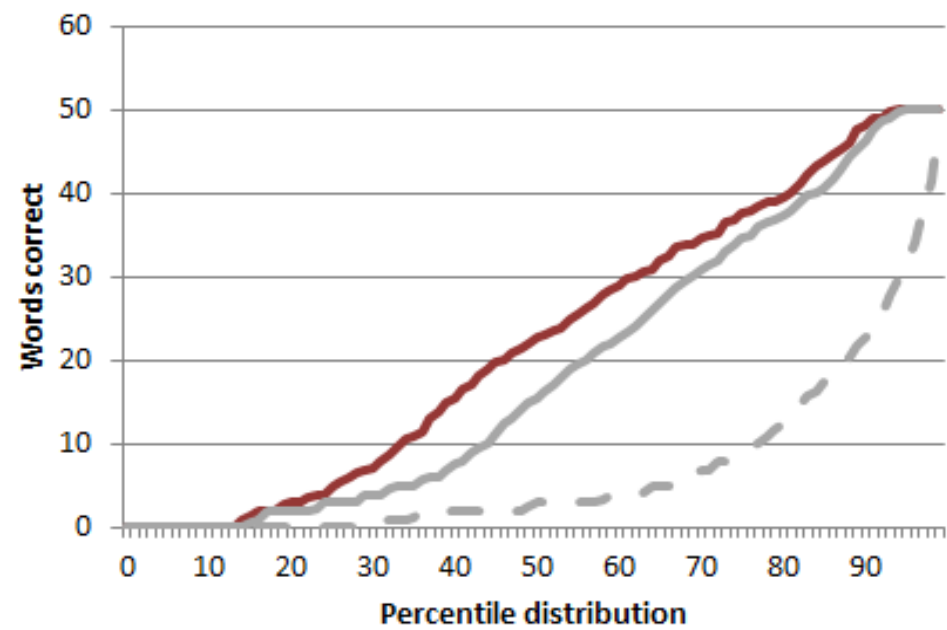
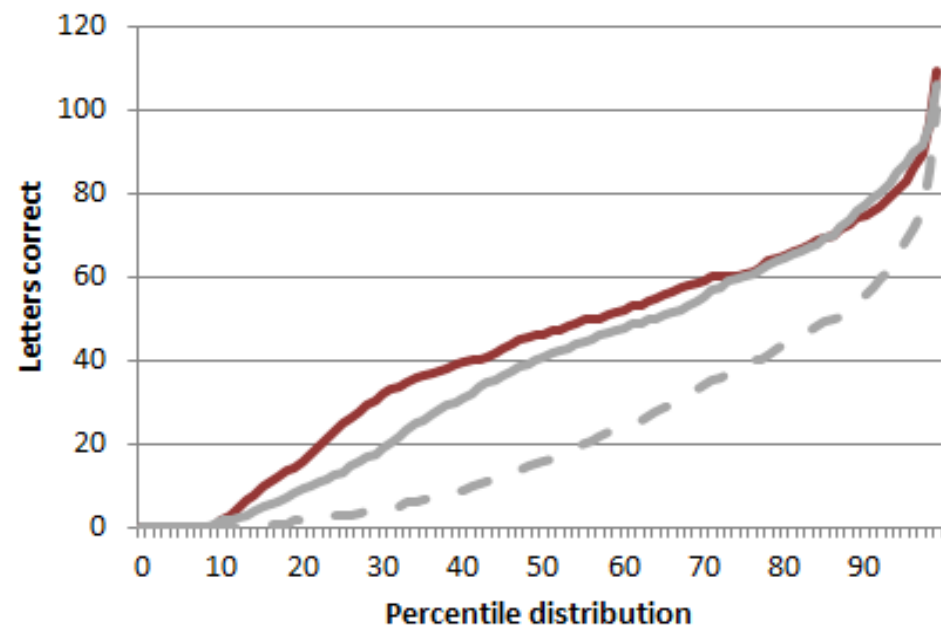
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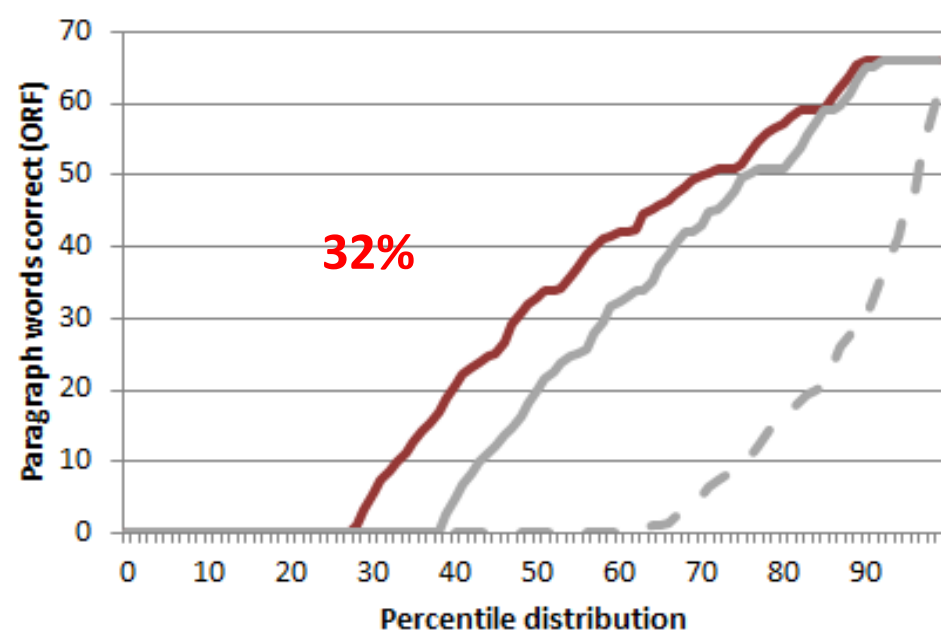
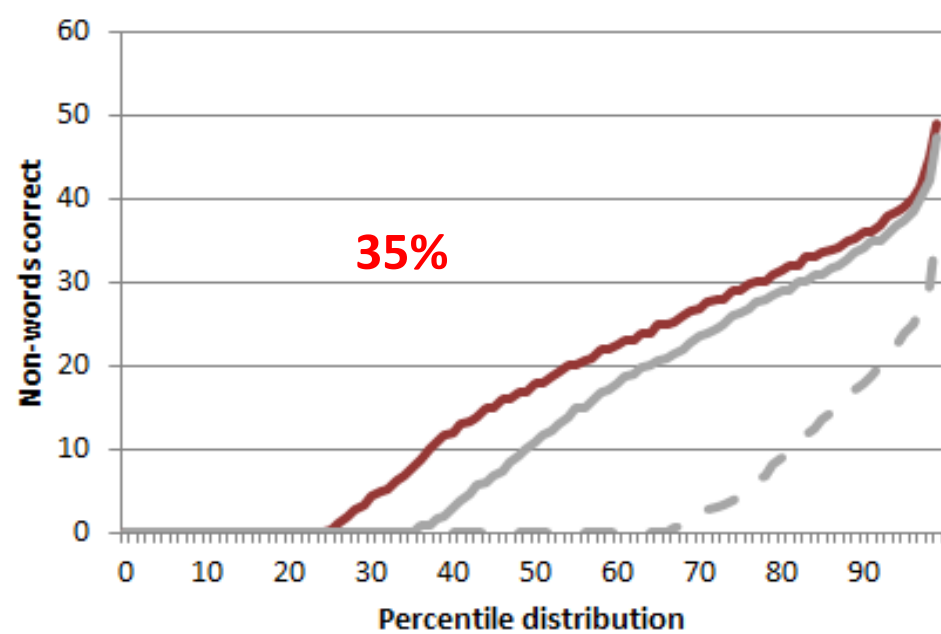
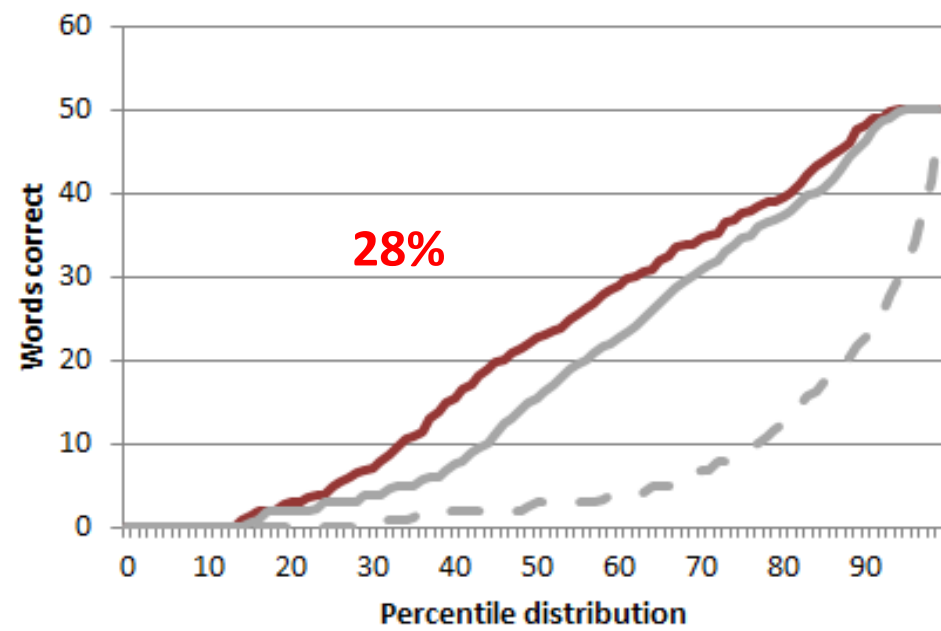
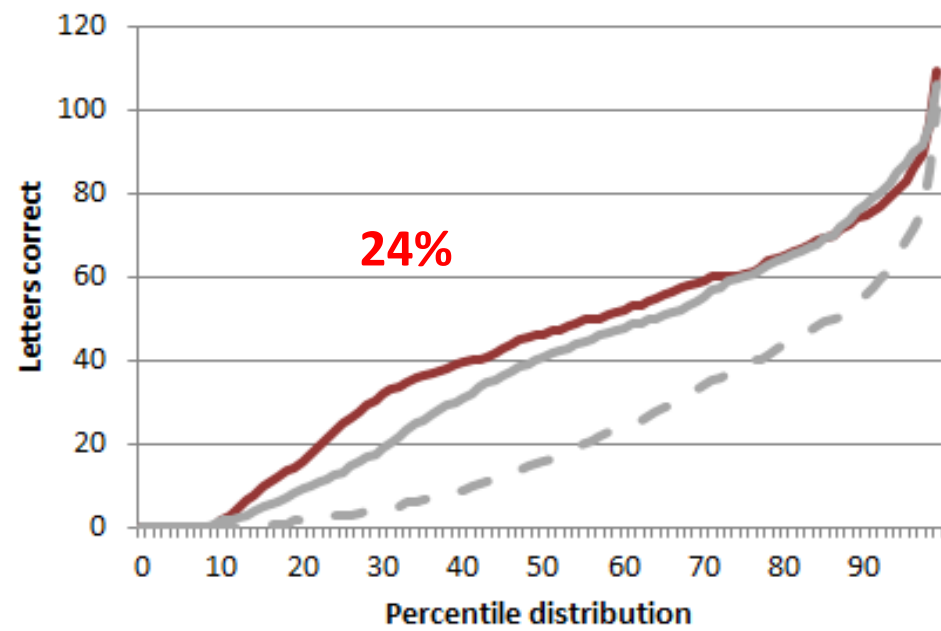
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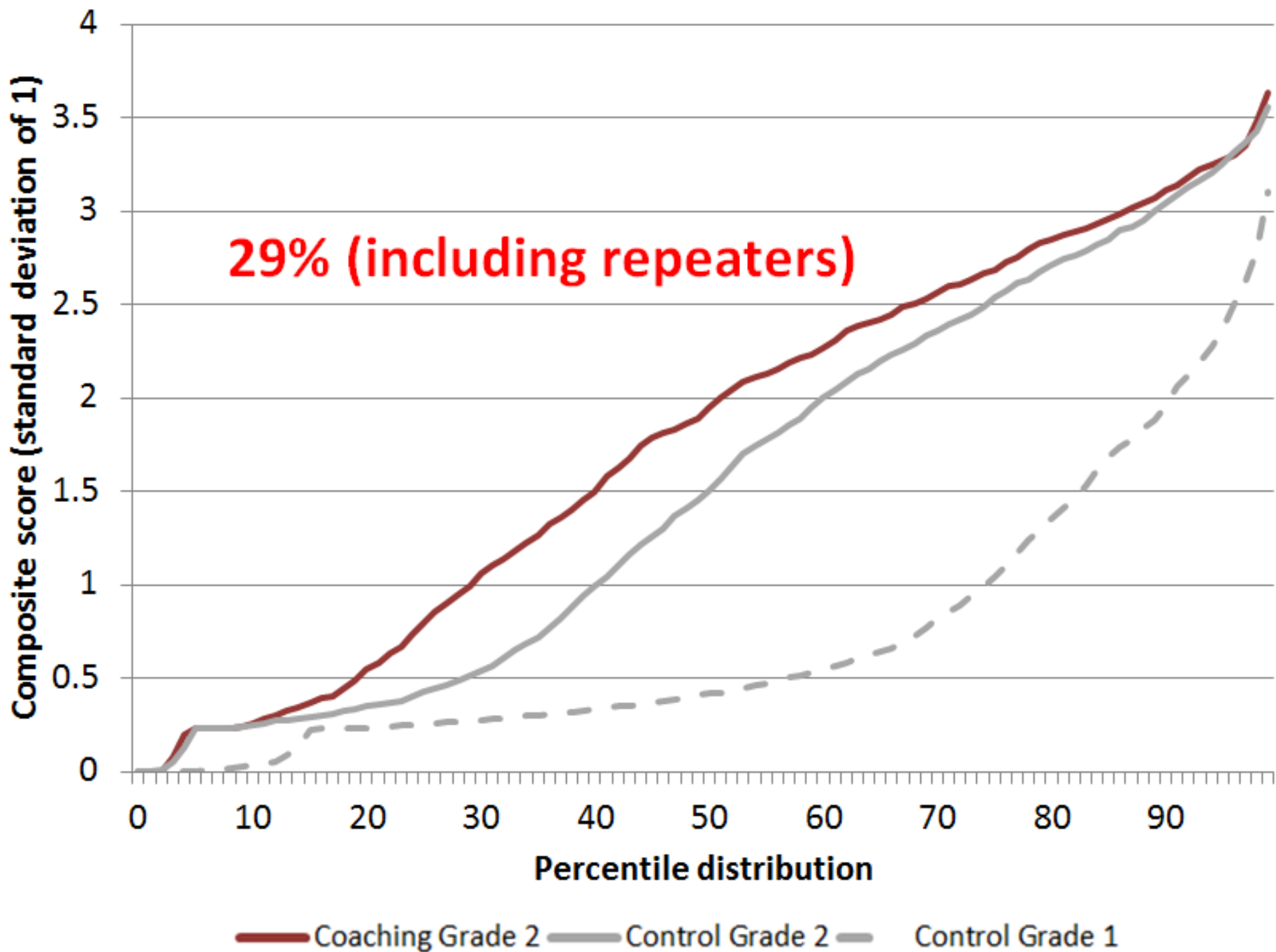
Additional slides...



— Coaching Grade 2 — Control Grade 2 - - Control Grade 1

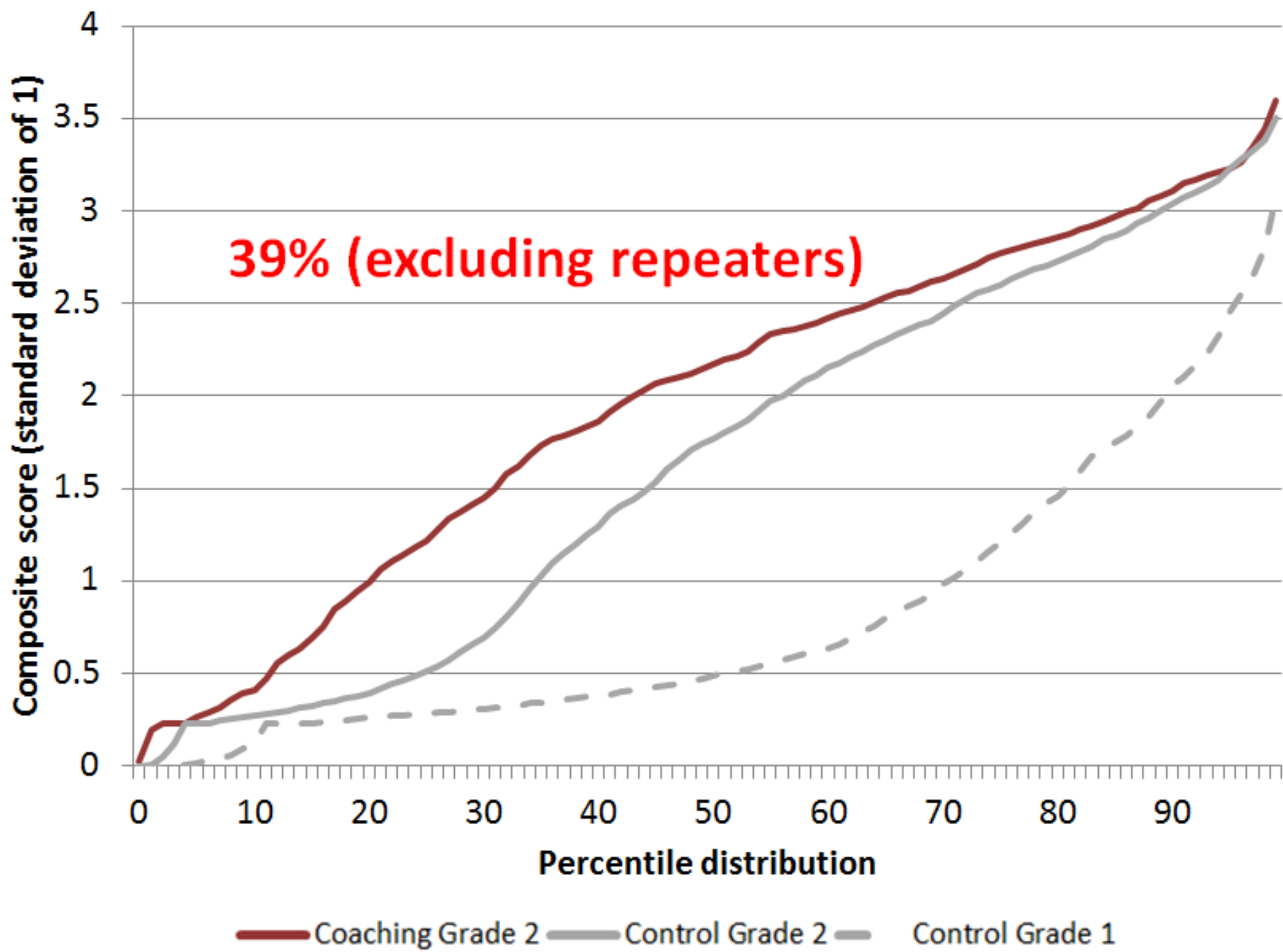


— Coaching Grade 2 — Control Grade 2 - - Control Grade 1



29% (including repeaters)

— Coaching Grade 2 — Control Grade 2 - - Control Grade 1



39% (excluding repeaters)

— Coaching Grade 2 — Control Grade 2 - - Control Grade 1

Cost-effectiveness analysis

	Training	Coaching	Parents
Total annual costs per 50 schools	R2.34m	R3m	R0.96m
Per learner annual cost	R 626	R 804	R 256
Estimated impact	0.11 SD	0.25 SD	0.1 SD
Test score gains per R1000 spent	0.18 SD	0.31 SD	0.38 SD



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Changes: Parent behaviour

Parent attendance a challenge

