The other 3 R's: Challenges for improving learner performance in South African schools

Invited address
Randfontien District Colloquium on literacy and numeracy
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National Education Quality Initiative

Social science that makes a difference

HSRC
Human Sciences Research Council

Aim

The main aim of the project is to enhance the effective implementation of education quality interventions in South Africa through a focus on improving the literacy and numeracy skills of learners.

Objectives

- To develop an education quality implementation plan that can be taken up to scale.
- Identify evidence based strategies to provide relevant and practical policy options for improving learner outcomes, with emphasis on difficult delivery contexts.
- To engage in high level policy dialogue to obtain consensus from key decision makers on effecting appropriate policies for improving learner levels of performance.
- To develop monitoring and evaluation mechanisms for obtaining relevant and timeous information.
- To isolate the critical areas of teacher development intervention; enhancing classroom practices in reading and writing;
- To determine the specific value-adding support roles of school management, local education districts and parents in supporting reading and writing interventions/programmes in schools; and
- To identify language policy development and implementation issues for enhancing quality reading and writing initiatives.

How is this project different?

- Evidence-informed policy dialogue
- Evidence-informed classroom practices
- Policy recommendations AND pilot implementation
- Development of a scale-up implementation strategy and plan
- Focus on primary and secondary schools
- M & E strategy and plans at classroom, school, district, province and national

- Use available inter/national data

Outcome of consultations

- **Improve reading and writing in schools**
- **Indicators for monitoring schools**
- **Free education in South Africa?**
- **Other issue raised:**

  Learning and Teaching practices (at FET phase)
  Maths & Science + Languages
  Educator competency and teaching
  Factors that affect learner performance – GET
  Teacher incentives
  Policy and practice implications of the NFTE

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First some important findings

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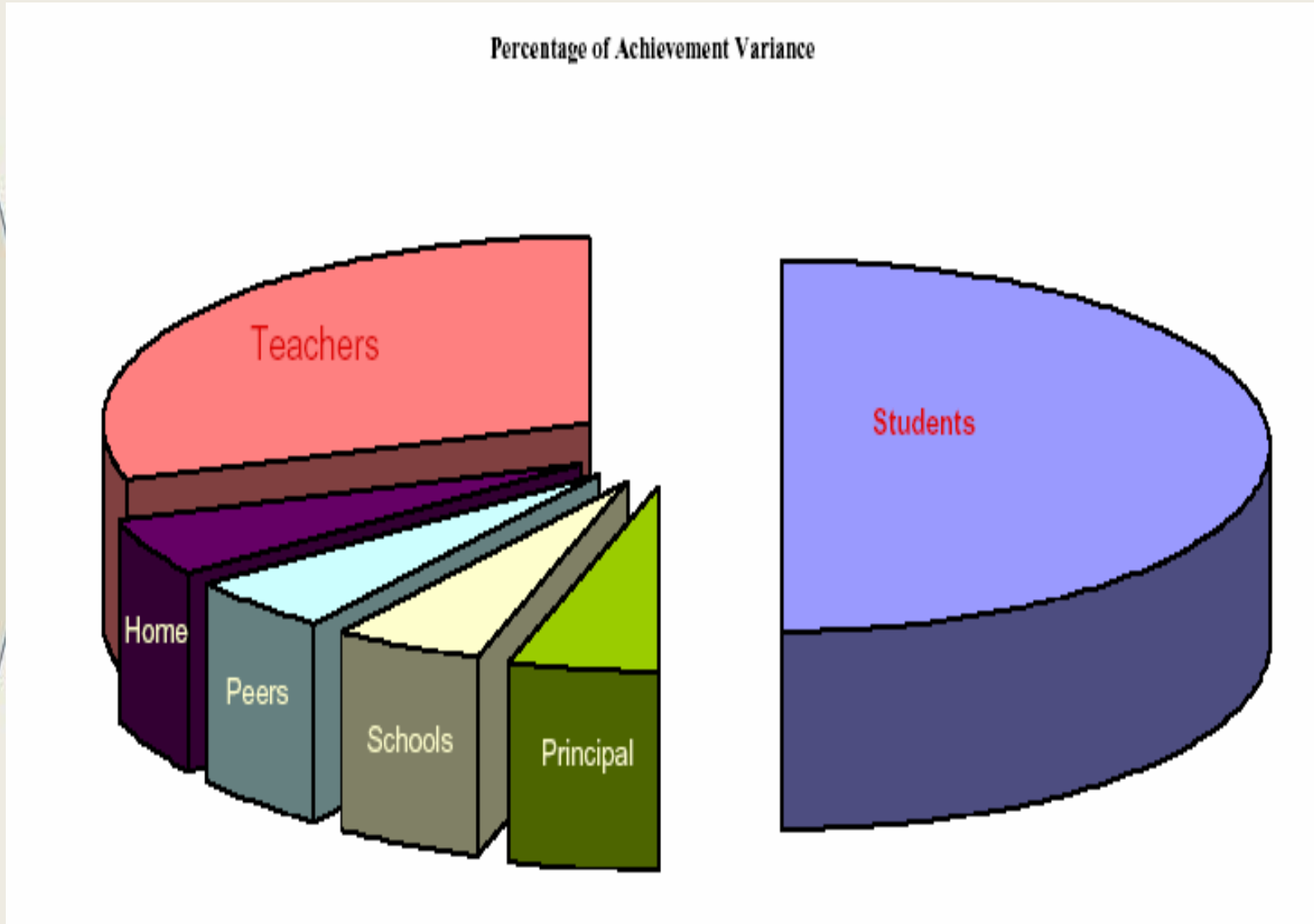
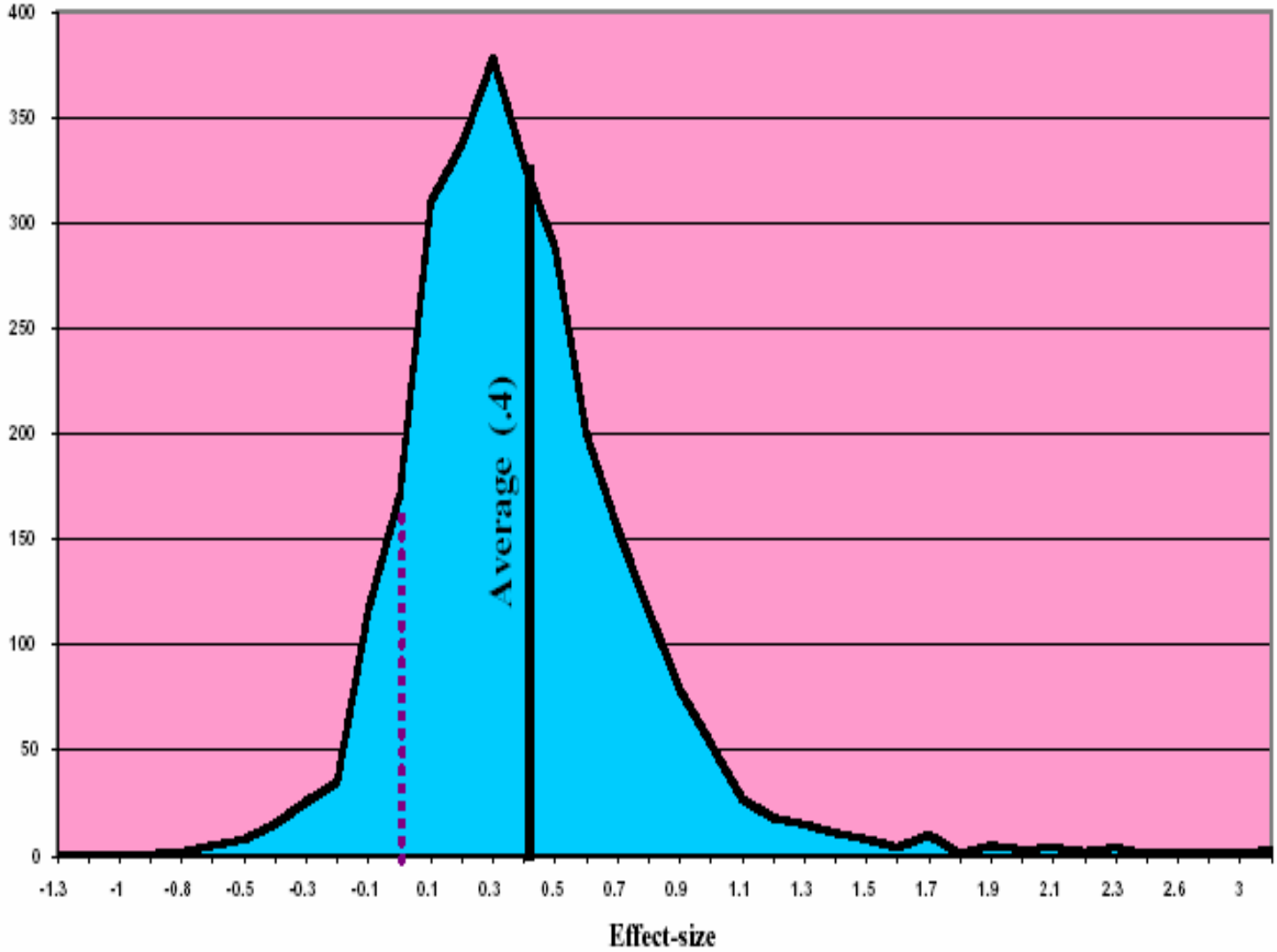
% variation explained



Results based on

- over 337 meta-analyses,
- 200,000 effect-sizes from
- 180,000 studies,
- representing approx 50+ million students, and
- covering almost all methods of innovation.

What is effect size?



Effect sizes of key variables

Influence	*Effect Size*	*Source of Influence*
Feedback	**1.13**	**Teacher**
Students' prior cognitive ability	**1.04**	**Student**
Instructional quality	**1.00**	**Teacher**
Direct instruction	**.82**	**Teacher**
Remediation/feedback	**.65**	**Teacher**
Students' disposition to learn	**.61**	**Student**
Class environment	**.56**	**Teacher**
Challenge of Goals	**.52**	**Teacher**
Peer tutoring	**.50**	**Teacher**
Mastery learning	**.50**	**Teacher**
Parent involvement	**.46**	**Home**
Homework	**.43**	**Teacher**
Teacher Style	**.42**	**Teacher**
Questioning	.41	Teacher
Peer effects	.38	**Peers**
Advance organisers	.37	**Teacher**
Simulation & games	.34	**Teacher**
Computer-assisted instruction	.31	**Teacher**
Testing	.30	**Teacher**
Instructional media	.30	**Teacher**
Aims & policy of the school	.24	**School**
Affective attributes of students	.24	**Student**
Physical attributes of students	.21	**Student**
Programmed instruction	.18	**Teacher**
Ability grouping	.18	**School**
Audio-visual aids	.16	**Teacher**
Individualisation	.14	**Teacher**
Finances/money	.12	**School**
Behavioural objectives	.12	**Teacher**
Team teaching	.06	**Teacher**
Physical attributes (e.g., class size)	-.05	**School**
Television	-.12	**Home**

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Most significant effects

Influence	*Effect Size*	*Source of Influence*
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Students' prior cognitive ability	1.04	Student
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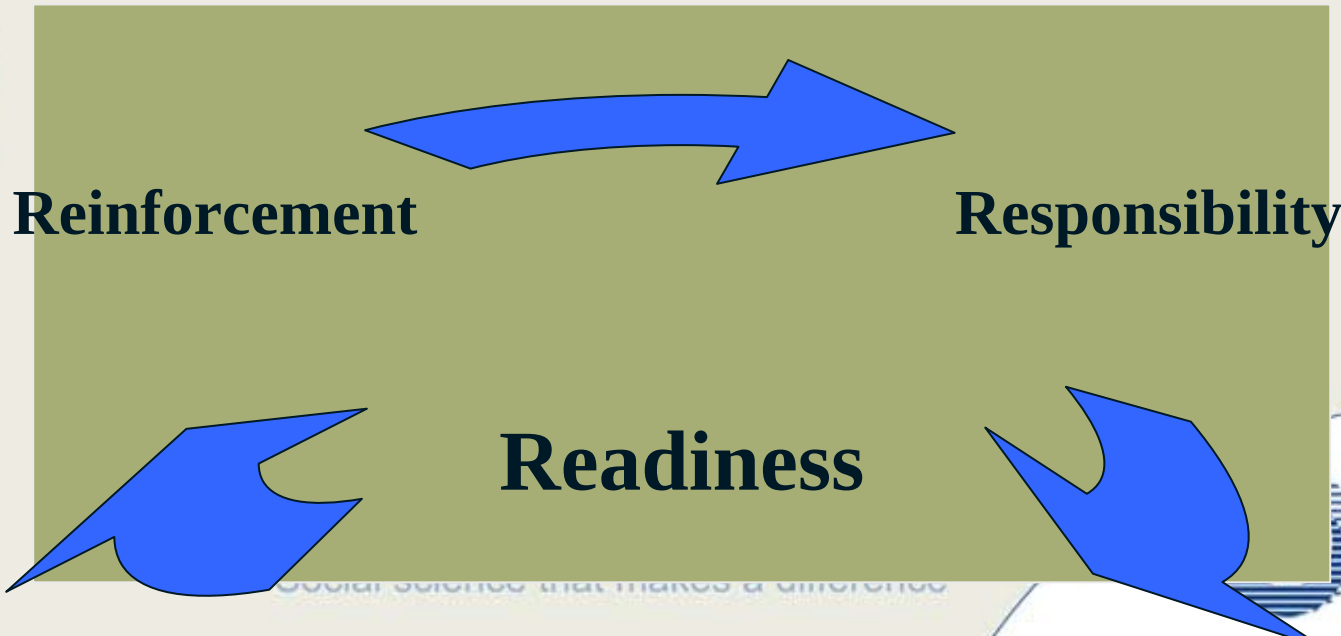
The other 3 R's

- Responsibility
  - Accountability
- Readiness
  - Structure/organisation
- Reinforcement
  - Support and feedback



O3R's – Improve learner performance

Responsibility

Readiness

Reinforcement

Support **learners**

Improve learning

Learner knowledge & ability

Teaching

Preparation

Feedback

Classroom Assessment

Improved learner performance

Classroom Assessment

- **CRITICAL for providing relevant feedback**
- Available when you need it
- Specific to curriculum/learning outcomes
- Reduce work load
- **Empower** teacher to:
  - Identify learner strengths & weakness
  - Classroom interventions
  - Ideas for “next steps”
  - Records trends in performance over time
- For use by TEACHER ONLY – i.e. lowstakes (not M&E by principal or district)

DEMO TWO PROJECTS

- Assessment Resources Tasks

- Assessment Tools for Teaching and Learning **asTTle**

Assessment Resource Banks

To support learning and teaching practices by:

1. Operationalising the learning outcomes to be attained

2. Providing relevant assessment tasks to assess learners against these outcomes.

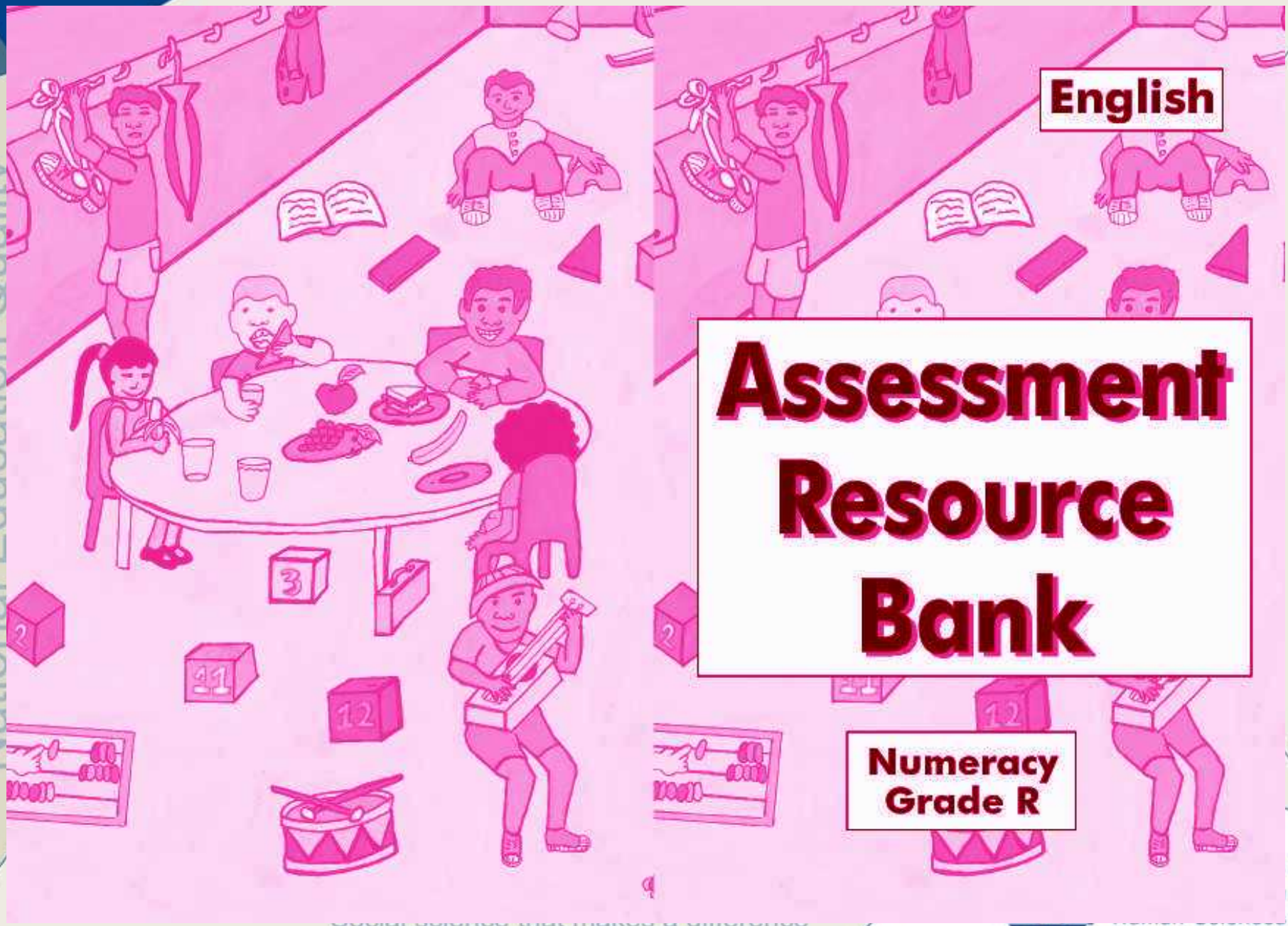
The assessment tasks should enable educators to:

i. Obtain relevant information on learner strengths and weaknesses
ii. Ensure that learners attained specific outcomes,
iii. Record learner progress
iv. Evaluate their teaching practices
v. Use assessment as a teaching strategy

What are ARB?

- A set of tasks - comprising different “testlets” - used to assess specific learning outcomes

- Numeracy and Literacy booklets
- Grades R, 1, 2 & 3 (and later 4, 5, 6)
- Booklets comprise instructions and guidelines in English
- Assessment Tasks – English + 8 languages in foundation phase



ARB Intro-duction

ARB Teacher Information

A. **Task 11**

B. **Learning Outcome: 2**
The learner is able to recognise, describe and represent patterns and relationships, and solve problems using algebraic language and skills.

C. **Assessment Standard**
The learner copies and extends simple patterns using physical objects and drawings.

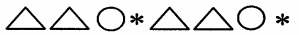
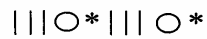
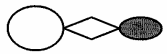
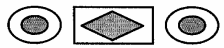
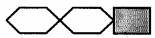
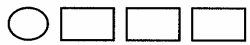
D. **Skills**
Representation and interpretation.
Reasoning and communication.
Describing and analysing.

E. **Degree of difficulty**

Easy	Moderate ✓	Difficult

G. **Equipment and administration**
1. Write the questions of Learner Task 11 on the board or hand out a copy of the task to each learner.
2. Explain to learners how to answer the questions but do not provide them with the correct answers.
3. Learners should have the correct vocabulary of cardinal numbers e.g. first, second, etc. to do question 3.

H. **Scoring**

Correct answers	Marks
1a)  1b)  1c)  1d) 	4 marks (1 mark each)
2a)  2b)  2c) 	3 marks (1 mark each)
3a)  3b)  3c)  3d) 	4 marks (1 mark each)
4) 	2 marks (1 mark for each repetition of the pattern)
Total score	**13**

I. **Levels of performance**

Score	Level
11 - 13	Fully attained
9 - 10	Satisfactorily attained
6 - 8	Partially attained
0 - 5	Not attained

ARB Learner Task

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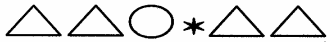
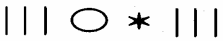
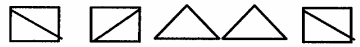
Learner Task 11

Name: _____ **Date:** _____

1. Draw these patterns in your book and complete each row.

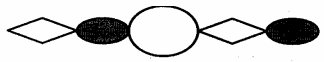
a) 

b) 

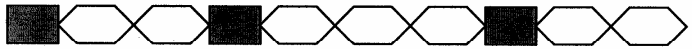
c) 

d) 

2. Draw the next three shapes of each of these patterns.

a) 

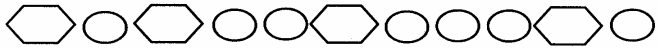
b) 

c) 

3. Draw the next four shapes of each of these patterns.

a)  ____ ____ ____ ____

b)  ____ ____ ____ ____ ____

c)  ____ ____ ____ ____

d)  ____ ____ ____ ____

4. Draw a pattern by using the following shapes in the order as indicated. (Repeat the pattern twice)

Last object 

Second object 

Third object 

First object 

Poster: Street Scene

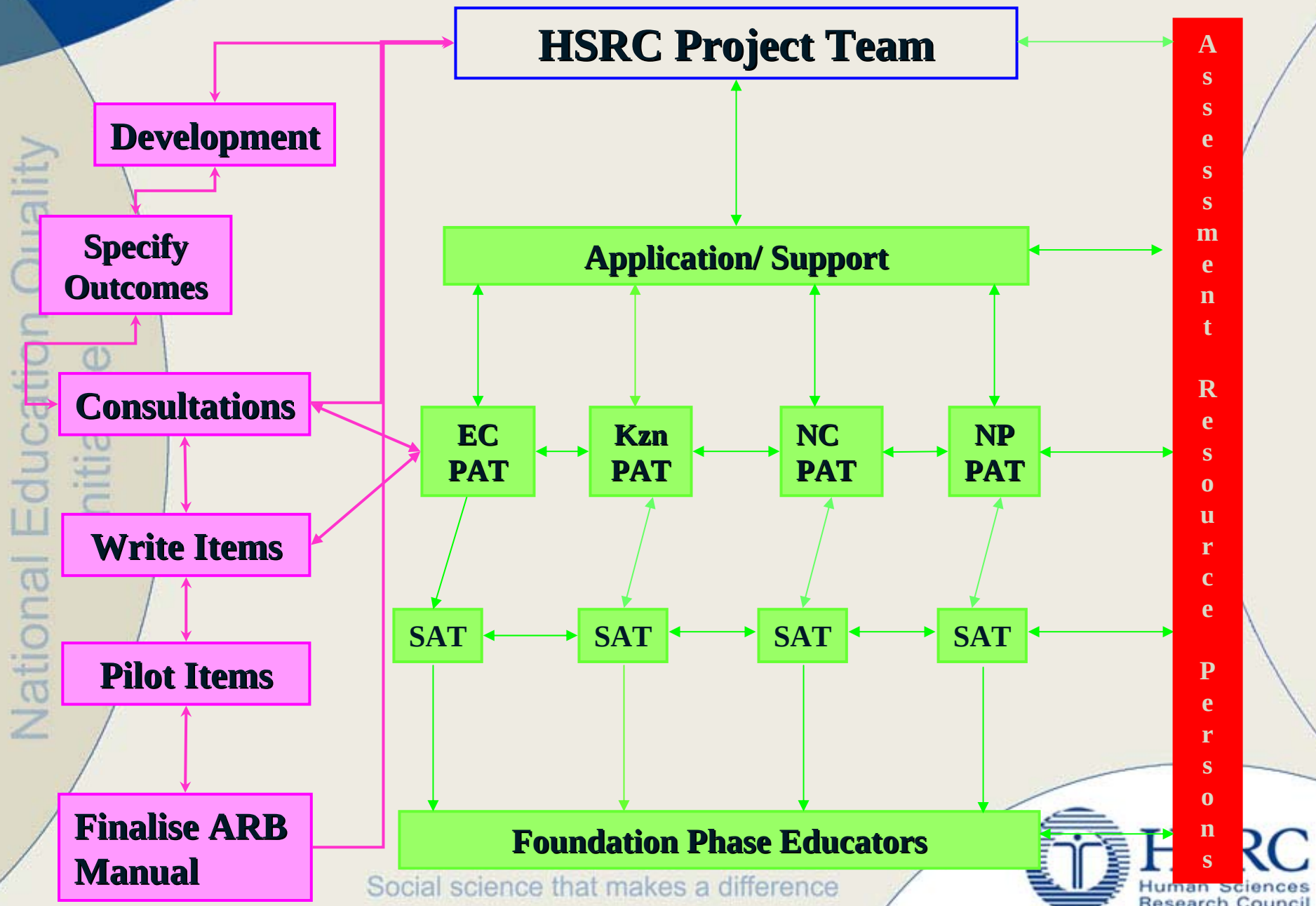
ARB Development

1. Practising Foundation & Intermediate Phase Educators to write items
2. Involvement and input of local district and provincial staff including teachers, principals & officials
3. GICD to serve as critical partner
4. National and international consultants to evaluate process
5. HSRC to do the technical work

ARB Application

- Underpin by system of training and continuous support
- Cluster system with local in-district support
- Based on maximising contact with educators
  - Cluster workshops
  - In class support and training
  - Conducted by HSRC team
- Assessment Resources Persons to be located in respective districts to provide daily support
- Solicit support from principals, district and provincial officials

- NB: many DDSP service providers used ARB materials in their activities


HSRC Project Team
Development
Specify Outcomes
Consultations
Write Items
Pilot Items
Finalise ARB Manual
Application/ Support
EC PAT
Kzn PAT
NC PAT
NP PAT
SAT
SAT
SAT
SAT
Foundation Phase Educators
Assessment Resource Persons
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A R B Support Workshops

PAT Support w/s February 2002	EC PAT	Kzn PAT	NC PAT	NP PAT
SAT ARB Support w/s – 3/2002	EC: 2, 98 sch	Kzn: 8, 185 sch	NC: 4, 65 sch	NP: 12, 255 sch
SAT ARB Support 2002	EC: 2, 98 sch	Kzn: 8, 185 sch	NC: 4, 65 sch	NP: 12, 255 sch
School Visits 10% September 2002	EC: 9 sch	Kzn: 18 sch	NC: 4, 7 sch	NP: 25 sch
SAT ARB Evaluation w/s – 3/2001	EC: 2, 98 sch	Kzn: 8, 185 sch	NC: 4, 65 sch	NP: 12, 255 sch

Monitoring and Evaluation

- **Extensive monitoring of ARB use - by HSRC + locally based assessment resource persons**
- **Provision of in class support and training as part of "monitoring visits"**
- **Involvement of district staff in M&E and in addressing problems**

Findings

How were the ARB applied?

- as intact tasks to assess learners against specific outcomes;
- as intact tasks to teach a lesson, either as an outline for or as the actual lesson;
- posters were used to assess learners either verbally or by developing their own items;
- to select specific items for use as examples in their regular lessons;
- to select specific items for use in their regular assessments;
- as classwork exercises
- as homework exercises
- as examplars for developing additional items or tests

Findings

2 Independent evaluations

- **USAID evaluation:**
  - **ARBs - one of the best practices emerging from the DDSP**

- **Eric Schollar Consultants**
  - **Evidence that scores increased significantly in those instances where DDSP service providers used the ARBs while scores decreased or reamained the same in those instances where the DDSP service providers DID not apply the ARBs.**

NEXT STEPS

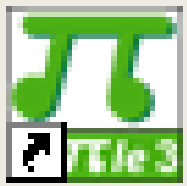
- **Include quarterly and end-of-year assessment tasks (tests)**
- **Computerised version + internet version to:**
  - **Further reduce teacher workloads**
  - **Provide detail diagnostic information for teachers**
  - **Record trends in learner performance**
  - **Obtain immediate feedback to learners and teachers**

- **Develop self assessment tasks for teachers and learners**
  - **i.e. teachers can use these to identify their strenghts and weaknesss**
  - **Will work well if relevant support/training provided to address any weaknesses identified.**

DEMO TWO PROJECTS

- Assessment Resources Tasks

- Assessment Tools for Teaching and Learning **asTTle**



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Thank you

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