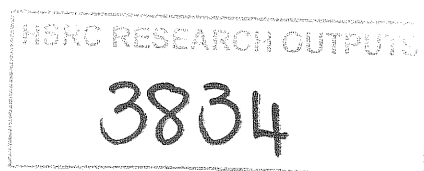


Kanjee, A. (2005). *Assessment systems and practices in developing nations: Implications for education policy*.

Keynote address: Global Conference on Education and Capacity Development, Conference Organised by World Bank and PREAL. Prague, April 2005.



Key lessons: New Zealand

- **Assessment system part of curriculum reform**
- **Features**
 - Standards-based system
 - School Entry Assessment
 - Professional development programmes on Assessment
 - Assessment Resource Banks – Primary schools
 - Exemplars of student performance for teachers
 - Assessment Tools for Teaching and Learning
 - National assessment (NEMP) –
 - professional development of teachers
 - Multiple methods of data collected
 - Funding and support to effect assessment system



Key lessons: South Africa

- **Assessment system implemented as part of complete “overhaul” of apartheid education**
- **Features**
 - National Qualifications Framework - education and training
 - Standards and outcomes for learners + Adults
 - Certification end of Compulsory education Grade 9 – CTAs
 - Revised Matriculation Exam - FETC
 - Whole School Evaluation + Systemic Evaluation
 - “Poverty index” for each school – decision making
- **Current reform new – difficult to judge success**
 - Minimum attention on assessment – Revised NEW curriculum after 2 years



Key Lessons: Uganda

- **Introduced a Statistics, Monitoring and Evaluation Division within Education Planning Department of Ministry**
- **Features:**
 - Detail framework that links monitoring, evaluation, reporting, data collection & research for MoE
 - Integrated into EMIS of MoE
 - Specifies key indicators for entire education sector
 - Address funding issue



Assessment practices



Lessons & Challenges:

National Assessments



Why focus on national assessments?

- Potential to focus on entire education system
- Significant increase in last decade, especially in Developing Nations
- Use of NA likely to increase in future
- Summative and formative role – policy processes and classroom practices
- Cost effective way of obtaining information
- Generally low stakes
- Greater utility value compared to international assessments



Criticality of assessment

- setting of education targets
- emphasis on a 'results agenda'
- greater focus on accountability & support
- value of evidence based decisions
- effect of globalisation
- recognition of the role of assessment in improving learning and teaching



Education Policy Processes

- Central to development and improvement of the education system
- Policy processes: policy making, implementation, analysis & evaluation
- Implicit in any policy – Cause and Effect
- Assessment & Evaluation provide (valid and timely) information to effect policy processes



Definition of terms

- **Measurement:** the process by which a value, usually numerical, is assigned to the attributes or dimensions of some concept or physical object
- **Testing:** the process of measuring one or more concepts, usually under standardized conditions
- **Evaluation:** the process of arriving at a judgment about abstract entities such as systems, structures, programs, curricula and organizations
- **Assessment:** "The process of obtaining information that is used to make educational decisions about students, to give feedback to the student about his or her progress, strengths and weaknesses, to judge instructional effectiveness and curricular adequacy and to inform policy (AFT, NCME, NEA, 1990, p.1)", and usually involves a range of different qualitative and quantitative techniques



Uses of Assessment

- **Learner Perspective**
 - Choose
 - Learn
 - Qualify
- **Decision Maker Perspective**
 - Select
 - Monitor & Evaluate
 - Hold Accountable



Focus on Assessing:

- Cognitive functioning
- Skills
- Behavior
- Attitudes
- Values



Types of Assessments

- **Assessment of Learners**
 - Classroom
 - National (District)
 - International / Regional
- **Assessment of School staff**
 - Teachers
 - Principals
- **Assessment of Education officials**
 - District
 - Provincial/Regional
 - National



Assessment systems and practices: Implications for education policy

Keynote address:
Global Conference on Education Research
Prague, April 2005

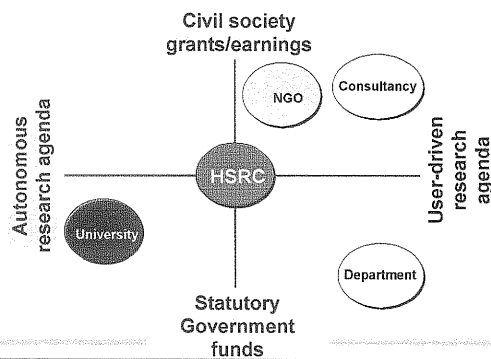
Anil Kanjee
Assessment Technology and Education Evaluation
South Africa
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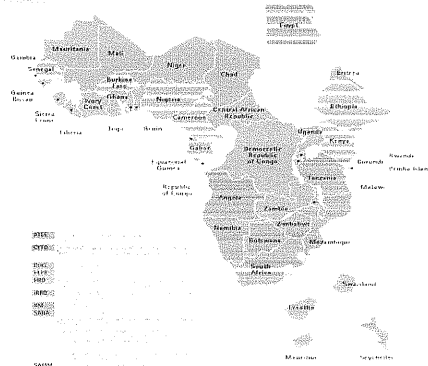
10 Research Programs



Location of HSRC



Africa



A quick Science Test

- What is H₂O and CO₂ ?
- Hot water and Cold water
- Why do mushrooms grow in damp places?
- Because they look like umbrellas
- Define germination?
- The process of becoming German



Outline

- Current context of assessment
- Definition and use
- Key lessons: National, Classroom & International?
- AQEE to improve learning model
- Systemic Validity
- Strategies for moving forward



Assessment Systems



Key lessons: Brazil

- Aim - "co-ordinate the development of educational assessment systems and organize the information and statistic systems to assist policymakers at all level of the system in making appropriate decisions" (Guimaraes de Castro, 2001b)

Key features

- single federal agency, (INEP) to develop and coordinate NA system
- linking assessment and information systems for use in monitoring policy formulation and implementation
- inclusion of the higher education sector (undergraduate) as a component
- Multi-level regular assessments – secondary, national, international
- Very technical data collection design and analysis



Key lessons: Chile

one of the most comprehensive and best-managed assessment systems in Latin America, and one that has served as a strong tool for implementing required reforms and led to increasing learning Wolf (1998)

Key Features

- use of census sampling
- The gradual improvement of the assessments over time - reporting
- Increased use of assessment results, e.g. intervention programs for low performing schools, allocation of financial rewards to schools
- Massive media campaigns directed at teachers, principals and parent.
- A comprehensive strategy for disseminating results
- The assessment of the affective domain (REVISED)
- Reporting results by socioeconomic level of schools.
- Participation in regional and international assessments
- Very technical data collection design and analysis

Integrated Curriculum, Assessment & Research division



Key lessons: Jordan

- Revision of the General Secondary Education Certificate Examination (Grade 12) for the improvement of assessment procedures, as well as the skills and expertise of teachers.

Features:

- The use of external expertise for technical assistance and training in developing the assessment system,
- The focus on classroom assessment and the learning and teaching process in the form of diagnostic testing
- The emphasis on the vocational education sector
- Participation in regional and international studies including: TIMSS (1999 & 2003), IAEP II (1991)



Key lessons: Mauritius

▫ Changes in assessment - result of changes to education system

Features:

- The use of examination results to identify weaknesses in learner performance and provide information to promote relevant reform
- The use of both national and international examinations to certify learners' completion of formal schooling.
- The identification of Essential and Desired Learning Competencies for improving the learning and teaching process.
- The provision of "standardized" diagnostic instruments for numeracy and literacy to assist teachers in detecting learning difficulties.
- Participation in regional studies - SACMEQ (1998, 2002) & MLA (1994, 1999) & use of information to inform policy



Key Lessons: Netherlands

▫ Inspectorate of Education supervises education and assess school quality

Features:

- Evaluate quality of individual schools from context, input, process and output perspective
- System comprised of school self evaluation, national examinations, national and international assessments
- Pupil Monitoring System – annually for 8 years, census
- Track performance of individual learners over time
- Software to assist teachers in analysis and recording
- Conducted by external agency



More suitable definition?

the process of obtaining relevant information from the entire education system to monitor and evaluate the performance of learners and other significant roleplayers as well as the functioning of relevant structures and programs within the system to implement policies and practices that improve learning



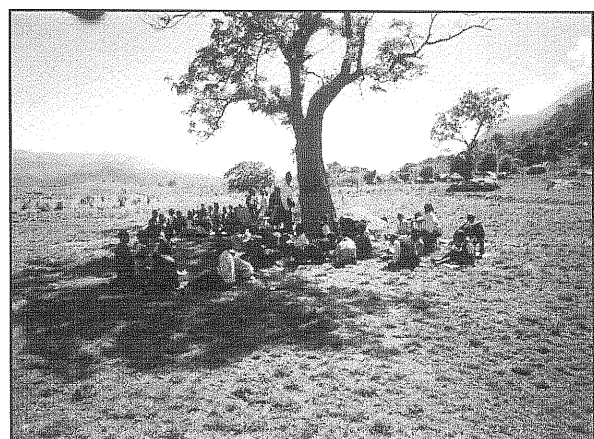
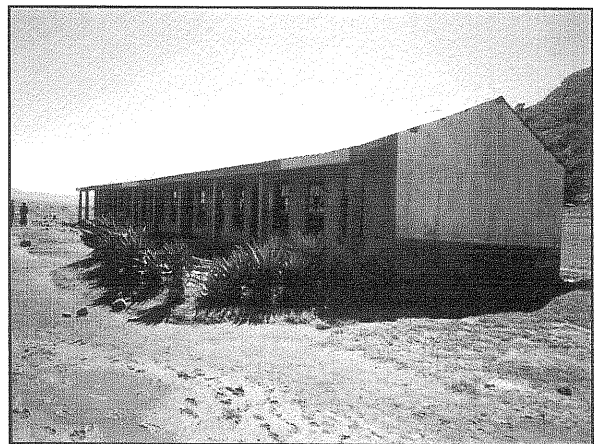
Definition – essential criteria

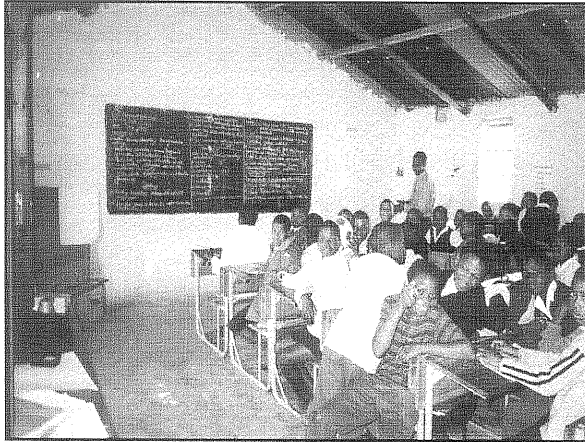
- for improving learning
 - from the entire education system
 - to monitor and evaluate
 - performance of learners (ESSENTIAL CRITERIA) and other roleplayers
 - functioning of structures and programs
- deliberate in its omission of the process by which these studies should be conducted and the specifics regarding how information should be used



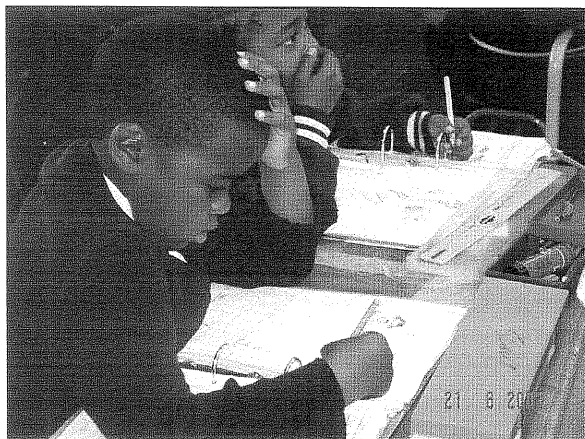
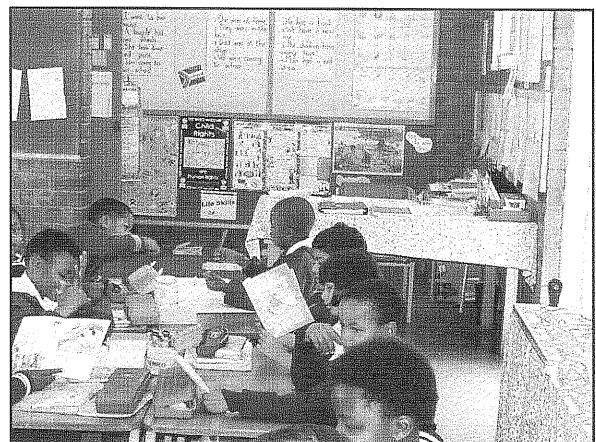
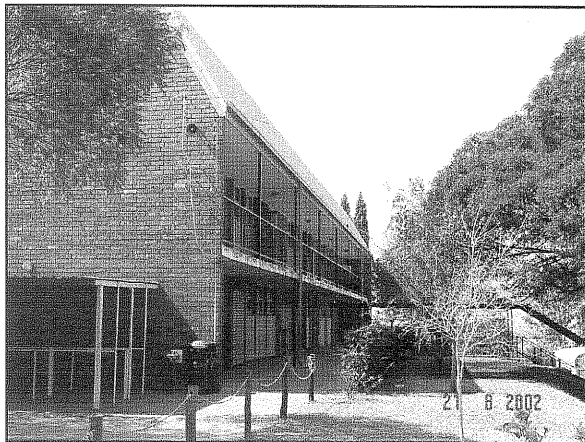

Application of appropriate designs and methods

- Latest & most sophisticated methodologies vs Cost effective and “good enough”
- Depends on national context and purpose
- **QUESTION: Do we really need sophisticated methods and designs to evaluate our education systems (schools)?**
- Take the following context in South Africa






Note however
We also have many (though not enough) very good schools with lots of resources



Answer


- Depends on the context within which NA are conducted,
- E.g. purpose, funding available, level of expertise and experience, assessment system, etc.
- It does seem that OPTIMAL use of NA are NOT being made



Overview - NA in Developing Nations		
Examinations or other proxy indicators	Regional testing or international agency	National monitoring program
Botswana; Cape Verde; Comoros Islands; Eritrea; Gambia; Guinea; Mauritius; Togo; Tanzania (Zanzibar); Zimbabwe	Kenya; Mali; Malawi; Mauritius; Mozambique; Namibia; Nigeria; Seychelles; South Africa; Swaziland; Tanzania (Mainland); Tanzania (Zanzibar); Uganda; Zambia; Zanzibar; Zimbabwe	Benin; Congo; Gambia; Lesotho; Madagascar; Zaire; (Congo Democratic Republic); Zambia
Algeria; Djibouti; Gaza Strip; Iran; Iraq; Jordan; Morocco; Oman; Saudi Arabia; Sudan; Tunisia; Yemen	Oman	Jordan; Lebanon; Morocco; Syria; Tunisia
Bhutan; Maldives; Nepal; Sri Lanka	Bangladesh; Maldives; Nepal; Pakistan; Sri Lanka	
Cambodia; China; Fiji; Indonesia; Laos; People's Democratic Republic; Papua New Guinea; Malaysia; Vietnam	Cambodia; China; East Timor; Mongolia	Philippines; Thailand
Barbados; Belize; Ecuador; Guyana; Haiti; Nicaragua; Panama	Argentina; Bolivia; Brazil; Chile; Colombia; Costa Rica; Cuba; Dominican Republic; Honduras; Mexico	Brazil; Chile; Colombia; Costa Rica; El Salvador; Guatemala; Honduras; Jamaica; Mexico; Nicaragua; Paraguay; Peru; Uruguay; Venezuela
Armenia; Azerbaijan; Bosnia & Herzegovina; Croatia; Georgia; Kazakhstan	Paraguay; Peru; Venezuela; Croatia	Mongolia; Romania (under review)


NA – Key Issues to address

1. Can NA provide relevant, reliable and valid information to support the policy process and classroom practice?
2. How can NA be used to [DIRECTLY] support the teaching and learning process?




NA – Question 1

- Answer – yes but need to address 2 specific issues:
- Common understanding and use of NA
- Application of NA designs that are both relevant to, and sustainable within, the education system




Common understanding of NA

- Range of interpretations and different conceptions of NA
- General sense of “confusion”
- Even though – must recognise the different reasons why NAs are conducted
- However, there does not seem to be any clear coherence between implementing NA and the policy process




Definitions – examples 1

1. “systematically measure typical levels of **learner achievement** in relation to **national standards**” (Crighton, J, 2002, p. 4). UNICEF Education Update
2. “systemic regular **measures of learning achievement** in a country designed to assist **policy making**” (Lockheed & Murphy, 1996, p. 2)
3. “regular and systematic measurement exercise designed to **determine what students have learned** as a result of their educational experiences” (UNESCO, 2000, p 14)
4. “[a] nationally representative and continuing assessment of what America's **students know and can do** in various subject areas” (NAGB, 2004)



Definitions – examples 2

5. “a process in which various measures are used to gather data for the purpose of **monitoring school systems**” (Capper, 1996, p. 30)
6. “an exercise designed to describe the **levels of achievements**, not of individual students, but of a **whole education system**, or a clearly defined part of it” (Kellaghan & Greaney, 2001, p. 33)
7. “**assessment materials** designed to be used by teachers in Scottish schools to confirm their judgments about pupils' levels of attainment in English language (reading and writing) and mathematics 5-14”. (Scottish Executive http://aifl-na.net/na/general_intro.aspx Retrieved 17 February 2004)



AQEE "Policy Goals"

Access

- Getting to school
- Getting into school
- Getting through school

Quality

- What learners should know
- Where learning occurs
- How learning takes place
- What is actually learnt

Efficiency

- Functioning of structures and systems
- Availability, allocation and use of human & physical resources
- Throughput and repetition rates

Equity/Redress

- Inclusivity
- Absence of unfair discrimination



ATEE

Systemic Validity

A systemically valid test is "... one that induces in the education system curricular and instructional changes that foster the development of the cognitive skills that the test is designed to measure."

Frederiksen & Collins (1989)

Assessment practices and systems are systemically valid if they generate useful information that supports the (continuous) improvement in one or more aspects of AQEE within the education system, without causing undue deterioration in other aspects or at other levels.

Braun & Kanjee (2004)



ATEE

Example: Exams

- Well constructed exams that serve the intended purpose of selecting students for the next stage

(Heyneman and Ransom, 1990)

- Meet the Fredriksen & Collins criteria

- Examination practices have deleterious effects on the education system

(Kellaghan & Greaney, 1992; Govinda, 1988)

- Fail the Braun & Kanjee criteria



ATEE

Systemic validity & AQEE

- AQEE framework provides the basis for judging how education systems function in support of societal needs
- Use systemic validity for prospective evaluations of proposed reforms against AQEE
- Should be complemented by cost-benefit analysis



ATEE

Attaining Systemic Validity?

- Systemic validity an ideal to be approached
- Prerequisites
 - Clarity
 - Coherence
 - Consistency



ATEE

Assessment, Education Reform & Policy



ATEE

Lessons: CA

- **New Zealand – asttle:** empower teachers with tools and support to conduct their own assessment –
- computer programs and Internet for analysing, recording and interpreting results
- guidelines for relevant intervention aimed
- Possible for both IT and paper-and-pencil based – i.e. urban and rural schools (SA pilot)
- Links possible to NA – obtaining item information



Lessons & Challenges: International



Issues in IA

- Can IA support learning and how?
- Issue similar to that of NA
- In addition,
 - Issues of curriculum relevance, comparability, time frame for reporting results, costs, etc
- Critical questions – International Assessments
 - Why do we, as a country, need to participate ?
 - What are the pros and cons?
 - How will our education system benefit?



AQEE to improve learning

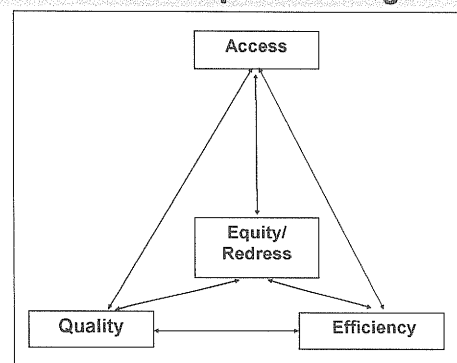


AQEE Model

- Model based on systems approach
- Allows for defining & understanding key policy goals that define Access, Quality, Efficiency & Equity/Redress
- Applicable at different levels of education system: national, provincial, district, school
- Each policy goal viewed as specific framework defined by indicators and indices
- Thus adaptable to any education system at any level
- Framework for evaluating education systems
- Currently being piloted in SA



AQEE to improve learning



Using NA for L&T: Teacher

IT is possible to provide information for NA to teachers

For example,

- Identifying student strengths & weaknesses (curricular sub-domain; cognitive process, sub-groups)
- Proposing possible solutions to specific problems
- Provide items for use in classroom
- Exemplars for good assessment practice
- Highlight critical skills that students should master
- Report on whether standards are being met
- Evaluate policy implementation within classroom
- Mechanism for PD

However – to date limited information on how useful/successful these have been



Pre-requisites

Need in-depth understanding of:

- information on specific needs of teachers that can be addressed by NA South Africa
- reporting practices, analysis & collection of data, to support teachers improve classroom practice New Zealand, Holland, Chile
- how teachers understand and translate information into practice Uruguay
- how students interact with assessment information England



Lessons & Challenges: Classroom



Lessons: CA

- Greater recognition of value of classroom assessment in effecting change, especially formative assessment practices
- Assessment FOR learning
- One dilemma, work load of teachers, limited information on how to use assessment in the classroom, limited experience and support within system



Lessons: CA

- Use of information from NA
- Use of information from Public Exams
 - Limited in many countries even though high potential of assisting teachers to improve performance – e.g. South Africa



Classrooms: Info from NA

- Jordan – diagnostic testing
- France – provision of scores and software for analysis at beginning of school year
- Holland – annual assessments results provided to teachers
- Mauritius, India – basic learning competencies – unintended consequences in India
- Chile - NA for reward – unintended consequences



Context: Education Landscape

- Substantial disparities in opportunity to learn and in achievement
- Low levels of achievement relative to global standards
- Limited human and physical resources
- Inefficiencies in allocation and use of resources
- Other socio-cultural and political challenges



Assessment paradox

- Low stakes assessment provides useful information for improving education practice - no incentives for reform
- High stakes assessment - linked to specific incentives for reform - many unintended consequences Chile



Conflicting views

- Assessment is a fair and objective way to set and maintain standards, to spearhead reform at both the levels of policy and practice, and to establish a basis for meaningful accountability.
- Assessment an instrument for maintaining the status quo, grossly unfair and educationally unproductive



Concerns: Assessment for education reform

- Failure to identify relevant skills and competencies to function effectively in society
- Technical and substantive aspects – e.g. quality of data, language differences, inequities in opportunity to learn
- Reporting and dissemination
- Unintended consequences



LIMITATIONS

- Have not adequately addressed Lessons & Challenges pertaining to the assessment of schools staff and education department officials
- Have not looked at assessments that go beyond cognitive level – i.e. attitude, values,



Conclusion

Acknowledge that

“Testing alone cannot improve learning, nor can it necessarily make education systems more responsive. But it does tune societies and governments alike to the possibilities of their schools and education systems. And, if the past is any guide to the future, well-designed and applied assessments can change the course of education reform” (Schiefelbein & Schiefelbein, 2003, p. 154).



Final Note:

- In my preparation, I am certain that there are experiences and information that I left out or did not accurately present.
- I would thus appreciate any comments, suggestions, additions or information that would improve on this paper

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