Using Assessment Results to Improve Education Quality: A Global Perspective

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Importance of Focus on Education Quality

- Traditional emphasis on school attainment and expenditure
- Development of access programs
  - Centerpiece of Millennium Development Goals
  - Education for All initiative
- Some clear successes and some continuing challenges
- Clear evidence that QUALITY is the primary issue
## Latin America Then

<table>
<thead>
<tr>
<th>Region</th>
<th>GDP/pop 1960</th>
<th>Years schooling</th>
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<tbody>
<tr>
<td>Asia</td>
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## Latin America Then and Now

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Overview of Discussion

1. Why we need a focus on education quality
   - Economic growth; individual earnings; distributional outcomes

2. Huge size of challenge in many countries

3. Relevance of assessment for quality improvement
   - Resource policies; exit exams; accountability policies; school autonomy and choice; demand-side incentives

4. The issue of global assessments
Growth Analysis Itself Is Based on (International) Assessments

- Cognitive skills: International Student Achievement Tests
  - Measuring knowledge, not sitting in the classroom
- International agencies have conducted many international tests of students’ performance in cognitive skills since mid-1960s
  - 12 testing occasions
  - 36 separate test observations (age levels, subjects)
- Require rescaling to obtain combined measure
  - Adjust mean and variance of separate tests
Education Quality and Economic Growth

coef = 1.9804387, se = .21707105, t = 9.12
Quantity of Schooling

Without quality control

With quality control
Extension to Latin American Tests
Other Benefits of Improved Cognitive Skills

- Improvement in individual earnings
  - True for developed countries
  - True for developing countries
- Improvement in income distribution
- Support for causal interpretation
The Size of the Current Challenge

- Current situation in developing countries is much worse than generally pictured on basis just of school enrollment and attainment
Lack of Educational Quality – Share of students below 400 test points (“illiterate”), between 400 and 600 and above 600 test points

<table>
<thead>
<tr>
<th>Country</th>
<th>Below 400</th>
<th>Between 400 and 600</th>
<th>Above 600</th>
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<tbody>
<tr>
<td>Estonia</td>
<td>2.7%</td>
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<tr>
<td>Taiwan</td>
<td>21.9%</td>
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<tr>
<td>USA</td>
<td>8.2%</td>
<td>7.3%</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>9.4%</td>
<td>10.5%</td>
<td></td>
</tr>
<tr>
<td>Brazil</td>
<td></td>
<td>66.2%</td>
<td></td>
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<tr>
<td>Peru</td>
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<td>81.8%</td>
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Basic Skills

Brazil

- never enroll
- dropout gr 1-5
- dropout gr 5-9
- finish gr 9 w/o basic skill
- finish gr 9 w/ basic skill

Grade 9: 22%

Fully literate: 8%
Basic Skills

Ghana

- never enroll
- dropout gr 1-5
- dropout gr 5-9
- finish gr 9 w/o basic skill
- finish gr 9 w/ basic skill

Grade 9

37 %

Fully literate

5 %
Basic Skills

Morroco

- never enroll
- dropout gr 1-5
- dropout gr 5-9
- finish gr 9 w/o basic skill
- finish gr 9 w/ basic skill

Grade 9: 28%

Fully literate: 13%
How to Improve Education Quality???

- Families; peers; community, neighborhood

- Schools
  - Policy largely around schools
  - But other interventions such as health programs
    a) Resource policies
    b) Institutional policies
Resource Policies

- Little evidence of success
  - Cross-country evidence
Resources and Performance across Countries

Math performance in PISA 2003

Cumulative educational expenditure per student

$R^2 = 0.01$

$R^2 = 0.15$
Resource Policies

- Little evidence of success
  - Cross-country evidence
  - Within-country – developed countries
  - Within-country – developing countries

- Does not say “resources never have effect”
- Does not say “resources cannot have effect”

No expectation within current incentive structure
Assessments as Part of Institutional Reforms Supported by Evidence

1. Central exit exams
2. Meaning for autonomy and choice
3. Various accountability measures
4. Direct demand-side incentives
Central Assessments and Education Quality: A German View
Central Assessments and Education Quality: The Global Perspective

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<td>Math</td>
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Complementarity of External Exams and School Autonomy

Math performance in TIMSS/TIMSS-R test scores (relative to lowest category)
Complementarity of External Exams and School Autonomy

Math performance in PISA test scores (relative to lowest category)
Additional Accountability Measures: Some Evidence from OECD Countries

Positive effects of various assessment measures:

1. Aimed primarily at students:
   - Use of assessments for decisions on student promotion/retention

2. Aimed at teachers:
   - Internal monitoring of teacher lessons by principal
   - External monitoring of teacher lessons by inspectors

3. Aimed at schools:
   - Assessments used to compare schools to district or national performance

Effect on equity:
   - Mostly: neither positive nor negative for equity: “Flood that raises all boats”
Demand-Side Programs

- Aimed generally at encouraging attendance/completion
  - Work through changing student and family behavior
  - Programs carefully evaluated

- Conditional cash transfers
  - Mexico, Brazil, Columbia, Nicaragua

- Fee reduction
  - Indonesia, Cambodia, Taiwan, Kenya

- Food and nutrition supplements
  - Bangladesh, India, Kenya
Conclusions on Demand-Side Incentives

- Results of demand-side programs
  - Each has positive (and significant) impact on attendance and attainment
  - But, with exception of Kenyan merit scholarship, little or no apparent impact on achievement

- Incentives have impact on behavior

- But: requires care in structuring incentives
  - Ensure goals are correct; not assume other outcomes

- May be perverse effects
  - Access and quality trade-offs

- Access viewed as “equity”
  - Equity not supported by low quality
Information and Feedback

Lack of monitoring of learning outcomes
- Developing countries lightly represented in evidence
- Have not participated frequently in international tests
- Nonparticipation is itself an important policy issue:
  - Difficult to know what improvements are needed or whether policies have impact without accurately measuring student performance

Existing international tests may not be well suited
- E.g., PISA tests of OECD do not provide accurate assessments of students in developing countries
- Adaptive testing (adjust test content to student’s ability level) offers possibility of meaningful within-country variation along with ability to link overall performance with global standards
Using Assessment Results to Improve Education Quality: A Global Perspective

1. Powerful economic impacts of *education quality*

2. The current situation in developing countries is dismal

3. School quality is not easily changed

4. Focus on *information* is critical
   - Policy-making: system level
   - Performance improvement: school/student level
   - Program feedback