SESSION 5
Operational decisions in student assessment projects

Student Assessment Workshop
HD Learning Week

Washington, DC
February 6-7, 2013
Does the country NEED an assessment?

Does the country WANT an assessment?

National or International assessment?

Who wants it?
Who pays for it?
Who leads it? Team?
Institution in charge?
TIMSS?
PIRLS?
PISA?
LLECE?
SACMEQ?

Large-scale survey assessment?

Subject areas?
Grade level?
Group administration?
Multiple-choice format?

School level results? public?
With consequences?
To assess or not to assess?
Considerations

• Who wants the assessment?
• Who needs it?
• Who would lead it?
• What for?
• How the results are going to be used?

Should you push for an assessment project?
National or international?
Pros & Cons

National Assessment

(+) Aligned with country needs
(+) Aligned with national curriculum
(+) Appropriate difficulty level
(-) Requires strong institution and team
(-) Technical quality may suffer
(-) May lack credibility

International Assessment

(+) International comparisons
(+) High legitimacy, credibility
(+) Technical quality
(+) High quality training
(-) Premade, may not respond to county needs
(-) Less aligned with national curriculum
(-) Usually too difficult
The diagram below shows part of a food chain. The arrows go from one organism to another organism that eats it. In this food chain, the limpets eat seaweed.

seaweed → limpet → Crab → Octopus

A. Complete the food chain above by writing the names of two other organisms from the table in the blank spaces. Use the information in the table about what each organism needs for food.
(There is more than one correct food chain. You need to show just one.)

B. One year a disease causes many limpets to die. What would happen to the seaweed in your food chain when the limpets die?

The amount of seaweed will grow because there isn’t lots of limpets to eat it.

C. Choose another organism in your food chain (not seaweed or limpet).

Name of organism: Crab

What would happen to this organism when the limpets die?

Some crabs will die because there isn’t a lot of limpets to eat.

D. What would happen to the other organisms in your food chain if the seaweed does not grow well?

The limpets will starve, so some crabs will die, so some octopuses will die. If one tiny thing happens to an animal or plant, it can affect the whole food chain.
### International Assessments

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Grades</th>
<th>Administration Dates</th>
<th>Questionnaires</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Progress in International Reading Literacy Study (PIRLS)</strong></td>
<td>Reading</td>
<td>4, (5, 6) -- samples</td>
<td>2001, 2006, and 2011</td>
<td>Yes</td>
</tr>
</tbody>
</table>
# International Assessments

<table>
<thead>
<tr>
<th>Location</th>
<th>Program Name</th>
<th>Subject Areas</th>
<th>Grades &amp; Cycles</th>
<th>Frequency</th>
<th>Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latin America</td>
<td>LLECE -- Laboratorio Latino Americano de Evaluacion de la Calidad de la Educacion</td>
<td>Language, mathematics, and natural sciences</td>
<td>Grades 3, 4, 6 -- sample</td>
<td>1995-7 (PERCE), 2005-7 (SERCE), 2011-13 (TERCE)</td>
<td>Questionnaires</td>
</tr>
<tr>
<td>Africa (French)</td>
<td>PASEQ</td>
<td>Language, mathematics</td>
<td>Grades 2, 5 (at the beginning and end of school year) -- sample</td>
<td>Every 2 years</td>
<td>Questionnaires</td>
</tr>
</tbody>
</table>
# National Large-Scale Assessments

<table>
<thead>
<tr>
<th>Country</th>
<th>Assessment Program</th>
<th>Main Purpose</th>
<th>Grades (Core)</th>
<th>Subject Areas</th>
<th>Questionnaires</th>
<th>Data Collection Method</th>
<th>Stakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td><strong>NAEP (National Assessment for Education Progress)</strong></td>
<td>to monitor student performance</td>
<td>4, 8, 12</td>
<td>Mathematics, language, science, the arts, civics, economics, geography, U.S. history</td>
<td>Questionnaires, Annual sample</td>
<td>Low stakes</td>
<td></td>
</tr>
<tr>
<td>CHILE</td>
<td><strong>SIMCE (Sistema de Medicion de la Calidad de la Educacion)</strong></td>
<td>to monitor student performance</td>
<td>4, 8, 10</td>
<td>Language, mathematics, sciences, English (ESL)</td>
<td>Questionnaires, Annual census</td>
<td>High stakes</td>
<td></td>
</tr>
<tr>
<td>UGANDA</td>
<td><strong>NAPE (National Assessment of Progress in Education)</strong></td>
<td>to monitor student performance</td>
<td>3, 6, 9</td>
<td>Language, mathematics, and sciences</td>
<td>Questionnaires and interview, Annual sample</td>
<td>Low stakes</td>
<td></td>
</tr>
</tbody>
</table>
National & International Assessments

Considerations

• Is the government committed?
• What is the best match between country priorities & assessment features?
• Who is going to lead the assessment?
• How are the results going to be used?
• Is the country prepared to handle poor results?
Where should the assessment program be located?
Institutional Arrangement

Evolution of the assessment office in Chile
Organizational Structure

- Central Management
  - Procurement & Human Resources
    - Instruments
    - Field operations
  - Steering Committee
    - Data processing
    - Reporting & using results
Staff

• Permanent staff:
  – 20 persons for a regular assessment office
  – 1 person per test or questionnaire
  – 1 data analysis person
  – Involve curriculum specialists

• Requires a large contingent of temporary staff for field operation
Costs of Assessments

• **National**
  – Yearly budget varies widely from country to country
    • From US$1- US$30 million
  – Assessment costs per student: US$10-US$80
  – Assessment costs represents less than 0.5% of the education budget
  – Key challenge is to ensure stable budget

• **International**
  – Participation fee (e.g., PIRLS US$175,000; TIMSS US$310,000 for 2 grades; no fees for PASEQ or SACMEQ; PISA: EU$50,000-600,000)
  – Operation costs within the country
  – Travel expenses

Assessment is among the cheapest and most cost-effective interventions
## Assessment Design

| WHAT? | Curriculum based: language, math, science, others?  
|       | Personal and social skills: Attitudes, motivation, values, grit, team work |
| WHO?  | Public or private schools  
|       | Sample or census  
|       | Target age or grade level. |
| WHEN? | Frequency: End of school cycle or before  
|       | At the beginning, middle or end of school year |
| HOW?  | Standardized, group administration?  
|       | External administrators or school teachers?  
|       | Paper & pencil or computer based? |
Test Construction

• Are there learning standards/ curriculum?
• Is the test aligned with the learning standards?
• Who will write the test questions?
• Main Problems
  – Test developed by personnel who lacks recent classroom experience
  – Test is too hard
### Test Construction

Number of test questions by content areas and skills

<table>
<thead>
<tr>
<th></th>
<th>Computations</th>
<th>Concepts</th>
<th>Problem Solving</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole numbers</td>
<td>26</td>
<td>18</td>
<td>18</td>
<td>62</td>
</tr>
<tr>
<td>Fractions</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Decimals</td>
<td>8</td>
<td>6</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>Measurement</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Geometry</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Charts and Graphs</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>
Printing, packaging and distribution

• What companies can provide the service?
• Does the assessment plan consider procurement time?
• When is the money going to be available?
Field operation

- Who will administer the tests?
- How to ensure standardization?
- How will test administrators be trained?
- Administration manuals?
Data Processing

- Who is going to be in charge?
- What technology is going to be used?
- How is data going to be validated?
- What scores will be computed?
Reporting Results

• How results are going to be reported?
• Put together a communication plan
• How to communicate poor results?
• How to ensure that results contribute to improve pedagogy and learning?
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