Analysis of Context Questionnaires in International Large-Scale Assessments (ILSAs)

Identifying Instruments, Items, and Best Practices for monitoring SDG 4

Andres Sandoval-Hernandez

Context and background

With just a few years to go until 2030, we need now to produce information to report the level of SDG 4 and the direction of its trend.

This information will help countries understand where they are and set improvement targets in their sector plans.

There are a wide range of educational assessments being carried out:

- Many national, regional, and international assessments

- Sound assessment frameworks covering a wide range of topics

- Information collected from a range of actors (e.g., students, families, teachers, principals)

Aims and objectives

Project Aim

- To investigate the potential use of ILSAs to evaluate and monitor SDG 4 targets

Specific objectives

- Identify and analyse background questionnaires used in ILSAs.

- Assess utilisation across contexts.

- Develop criteria for item/scale evaluation.

Methodology

Systematic Approach

- A comprehensive and systematic approach was

Key stages:

- Identification of instruments.
- Understanding and operationalisation of indicators.
  - Classifying indicators: National Surveys, Achievement Tests and **Searchable** Indicators.
- Mapping questions to indicators.
- Determining Measurability of Indicators.

ID	Classification	ERCE	ICILS	PIRLS	PISA	TIMSS	PASEC	SEA-PLM	PILNA	Total	Recommendation
4.1.1	Achievement test										-
4.1.3	National Surveys										-
4.1.4	National Surveys										-
4.1.5	Searchable	3		1	1	1				6	PISA
4.1.6	National Surveys										-
4.1.7	National Surveys										-
4.2.1	Searchable	1		4	1	5				11	None recommended
4.2.2	Searchable	1		1	4	1			1	8	None recommended
4.2.3	Searchable	1		1	1	1		1		5	None recommended
4.2.4	Searchable			1	1	1				3	None recommended
4.2.5	National Surveys										-
4.3.1	National Surveys										-
4.3.2	National Surveys										-
4.3.3	National Surveys										-
4.4.1	Searchable	5	4		4	3				16	ICILS
4.4.2	Searchable		3		2					5	None recommended
4.4.3	Searchable			1	2					3	PISA
4.5.2	Searchable	2		1	1	2			1	7	PILNA
4.5.4	National Surveys										-
4.6.1	Achievement test										-
4.6.2	Achievement test										-
4.7.1	Achievement test										-
4.7.2	National Surveys										-
4.7.4	Achievement test										-
4.7.5	Achievement test										-
4.a.1	Searchable	1			2		1		1	5	ERCE
4.a.2	Searchable				3	2		1	1	7	PISA
4.c.1	Searchable	7			2	7	1	1	1	19	PASEC
4.c.2	Searchable	14			3	4				21	TIMSS
4.c.3	National Surveys										-
4.c.4	Searchable	5								5	TIMSS
4.c.5	National Surveys										-
4.c.6	National Surveys										-
4.c.7	Searchable	2			1		1	1	1	6	SEA-PLM
Total		42	7	10	27	28	3	5	5		

ID	Classification	ERCE	ICILS	PIRLS	PISA	TIMSS	PASEC	SEA-PLM	PILNA	Total	Recommendation
4.1.1	Achievement test										-
4.1.3	National Surveys										-
4.1.4	National Surveys										-
4.1.5	Searchable	3		1	1	1				6	PISA
4.1.6	National Surveys										-
4.1.7	National Surveys										-
4.2.1	Searchable	1		4	1	5				11	None recommended
4.2.2	Searchable	1		1	4	1			1	8	None recommended
4.2.3	Searchable	1		1	1	1		1		5	None recommended
4.2.4	Searchable			1	1	1				3	None recommended
4.2.5	National Surveys										-
4.3.1	National Surveys										-
4.3.2	National Surveys										-
4.3.3	National Surveys										-
4.4.1	Searchable	5								16	ICILS
4.4.2	Searchable									5	None recommended
4.4.3	Searchable									3	PISA
4.5.2	Searchable	2						1		7	PILNA
4.5.4	National Surveys										-
4.6.1	Achievement test										-
4.6.2	Achievement test										-
4.7.1	Achievement test										-
4.7.2	National Surveys										-
4.7.4	Achievement test										-
4.7.5	Achievement test										-
4.a.1	Searchable	1			2		1	1		5	ERCE
4.a.2	Searchable				3	2		1	1	7	PISA
4.c.1	Searchable	7			2	7	1	1	1	19	PASEC
4.c.2	Searchable	14			3	4				21	TIMSS
4.c.3	National Surveys										-
4.c.4	Searchable	5								5	TIMSS
4.c.5	National Surveys										-
4.c.6	National Surveys										-
4.c.7	Searchable	2			1	1	1	1	1	6	SEA-PLM
Total		42	7	10	27	28	3	5	5		

Percentage of children over-age for grade

Although questions from TIMSS, PIRLS, PISA, and ERCE provide some data on school entry age and grade repetition, they do not track students' progression over time, making it insufficient to measure this indicator fully.

ID	Classification	ERCE	ICILS	PIRLS	PISA	TIMSS	PASEC	SEA-PLM	PILNA	Total	Recommendation
4.1.1	Achievement test										-
4.1.3	National Surveys										-
4.1.4	National Surveys										-
4.1.5	Searchable	3		1	1	1				6	PISA
4.1.6	National Surveys										-
4.1.7	National Surveys										-
4.2.1	Searchable	1		4	1	5				11	None recommended
4.2.2	Searchable	1		1	4	1			1	8	None recommended
4.2.3	Searchable	1		1	1	1		1		5	None recommended
4.2.4	Searchable			1	1	1				3	None recommended
4.2.5	National Surveys										-
4.3.1	National Surveys										-
4.3.2	National Surveys										-
4.3.3	National Surveys										-
4.4.1	Searchable	5								16	ICILS
4.4.2	Searchable									5	None recommended
4.4.3	Searchable									3	PISA
4.5.2	Searchable	2							1	7	PILNA
4.5.4	National Surveys										-
4.6.1	Achievement test										-
4.6.2	Achievement test										-
4.7.1	Achievement test										-
4.7.2	National Surveys										-
4.7.4	Achievement test										-
4.7.5	Achievement test										-
4.a.1	Searchable	1			2		1	1		5	ERCE
4.a.2	Searchable				3	2		1	1	7	PISA
4.c.1	Searchable	7			2	7	1	1	1	19	PASEC
4.c.2	Searchable	14			3	4				21	TIMSS
4.c.3	National Surveys										-
4.c.4	Searchable	5								5	TIMSS
4.c.5	National Surveys										-
4.c.6	National Surveys										-
4.c.7	Searchable	2			1	1	1		1	6	SEA-PLM
Total		42	7	10	27	28	3	5	5		

Participation rate in organised learning before primary school

Questions in PISA, TIMSS, PIRLS and other assessments focus on attendance and age of entry but overlook critical aspects such as the quality and duration of early learning programs.

ID	Classification	ERCE	ICILS	PIRLS	PISA	TIMSS	PASEC	SEA-PLM	PILNA	Total	Recommendation
4.1.1	Achievement test										-
4.1.3	National Surveys										-
4.1.4	National Surveys										-
4.1.5	Searchable	3		1	1	1				6	PISA
4.1.6	National Surveys										-
4.1.7	National Surveys										-
4.2.1	Searchable	1		4	1	5				11	None recommended
4.2.2	Searchable	1		1	4	1			1	8	None recommended
4.2.3	Searchable	1		1	1	1		1		5	None recommended
4.2.4	Searchable			1	1	1				3	None recommended
4.2.5	National Surveys										-
4.3.1	National Surveys										-
4.3.2	National Surveys										-
4.3.3	National Surveys										-
4.4.1										16	ICILS
4.4.2	Searchable									5	None recommended
4.4.3	Searchable									3	PISA
4.5.2	Searchable	2							1	7	PILNA
4.5.4	National Surveys										-
4.6.1	Achievement test										-
4.6.2	Achievement test										-
4.7.1	Achievement test										-
4.7.2	National Surveys										-
4.7.4	Achievement test										-
4.7.5	Achievement test										-
4.a.1	Searchable	1			2		1	1		5	ERCE
4.a.2	Searchable				3	2		1	1	7	PISA
4.c.1	Searchable	7			2	7	1	1	1	19	PASEC
4.c.2	Searchable	14			3	4				21	TIMSS
4.c.3	National Surveys										-
4.c.4	Searchable	5								5	TIMSS
4.c.5	National Surveys										-
4.c.6	National Surveys										-
4.c.7	Searchable	2			1	1	1		1	6	SEA-PLM
Total		42	7	10	27	28	3	5	5		

Proportion of youth and adults with ICT skills

While assessments like ICILS and PISA include questions on ICT exposure, they tend to measure frequency of use rather than actual proficiency levels, failing to capture true competency in ICT skills.

Limitations

- **Effective for Core Academics:** ILSAs are effective in measuring literacy, numeracy and science proficiency.

- **Non-Academic Indicators:** ILSAs have significant limitations in assessing inclusivity, life skills, vocational training, school safety and educational equity.

- **Original Design:** ILSAs primarily target academic knowledge for international comparison.

Specific Limitations:

- Bias and subjectivity in self-reported data.

- Focus on school-aged populations.

- Methodological limitations in target populations.

- Gaps in measuring teacher qualifications and school resources.

Recommendations

Integrate Data: Combine ILSA data with national and regional sources to provide a comprehensive picture of educational progress.

Develop Standardised Frameworks: Create internationally recognised frameworks for non-academic indicators.

Adapt Assessment Tools: Develop optional modules or adapt existing questionnaires to include underrepresented indicators.

Encourage Longitudinal Tracking: Integrate longitudinal tracking in assessments to monitor student age and grade progression over time.

Conclusions

ILSAs are Valuable but Limited: ILSAs are valuable for assessing academic competencies, but have limitations in measuring broader SDG 4 indicators.

Recommendations for Improvement: Integrating data, developing frameworks, and adapting tools are crucial for more inclusive and accurate evaluations.

Further analysis to address issues of comparability and coverage.

- Use of several ILSAs to report on one indicator/target

- Reach compromises in terms of definitions and operationalisations

THANK YOU

Learn more:

uis.unesco.org

databrowser.uis.unesco.org

@UNESCOstat

#25YearsOfDataInsights