IEA's LaNA for Developing Countries
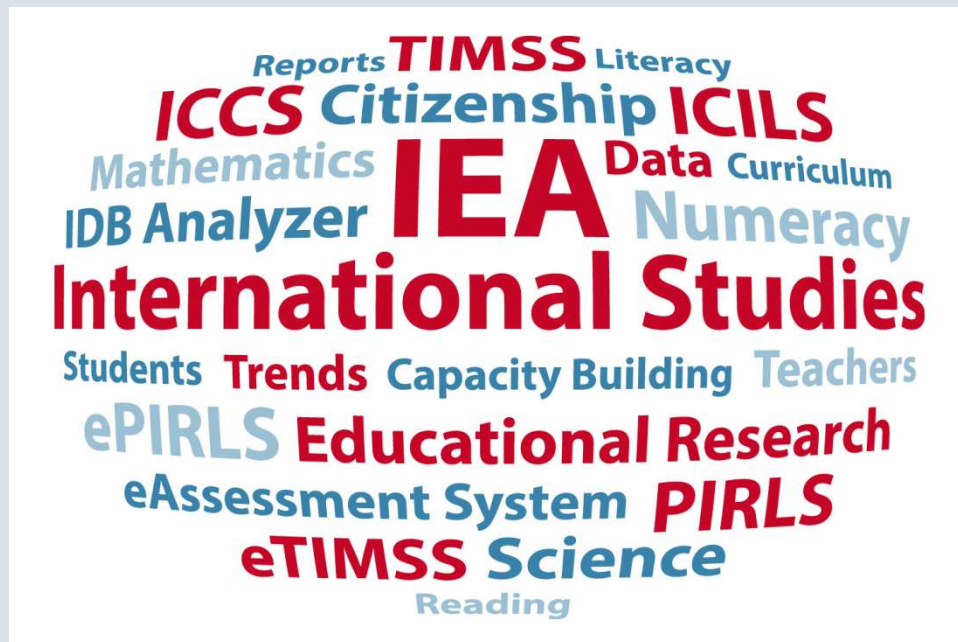
## Michael Martin, BC; Dirk Hastedt, IEA
March 2016
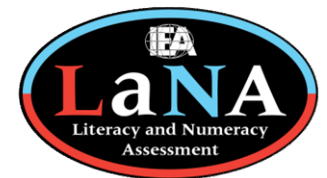
LaNA: IEA's Literacy and Numeracy Assessment

- Assessment of literacy and numeracy at end of primary school (4th – 6th grades)

- Provides literacy and numeracy achievement results that can be compared internationally

- Designed for countries where TIMSS and PIRLS are too difficult

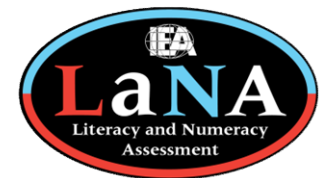- Intended as a first step to participating in TIMSS and PIRLS

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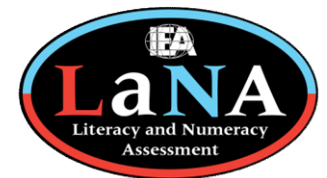
Benefits for Participating Countries

- Literacy and numeracy achievement data in a global context

- Percentages of students reaching international benchmarks
  - Basic levels of literacy and numeracy

- Profiles of strengths and weaknesses in literacy and numeracy achievement

- Characteristics of successful students and schools

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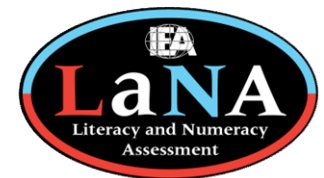
Benefits for Participating Countries

- Relationships between background characteristics and achievement compared to other countries

- Valuable experience in implementing assessment procedures

- Capacity building in planning and administering assessments

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Linking to TIMSS and PIRLS

- Based on TIMSS and PIRLS assessment frameworks in mathematics and reading at fourth grade

- Literacy achievement linked to PIRLS and PIRLS Literacy assessments

- Numeracy achievement linked to TIMSS and TIMSS Numeracy assessments

- Uses only multiple choice items so IEA can score them electronically

PIRLS 2016

TIMSS 2015

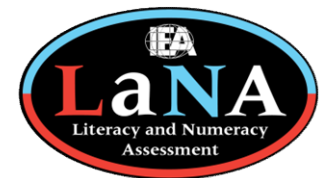International Association for the Evaluation of Educational Achievement
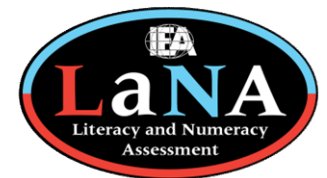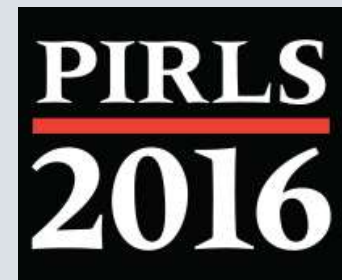
LaNA Literacy

- Short vocabulary test

- Reading comprehension – read passages and answer questions about them

- Passages from PIRLS Literacy 2016 assessment
  - 2 literacy (stories)
  - 2 informational

- Replace constructed response items with multiple choice questions

- 75 literacy questions

Brave Charlotte

By Anu Stohner
Illustrated by Henrike Wilson

Charlotte was different from all the other sheep right from the start. When all the other lambs just stood shyly by their mothers, Charlotte was leaping around, ready for adventure.

Charlotte lived with all the other sheep on a hillside far from the farm. They had a shepherd to look after them and he had an old dog named Jack. Jack tried to keep Charlotte under control, but she wasn't scared of him.

1. Why was Charlotte different?

   (A) She stood by her mother.

   (B) She was shy.

   (C) She was ready for adventure.

   (D) She was on the hillside.

2. Who was Jack?

   (A) A sheep

   (B) A shepard

   (C) An old dog

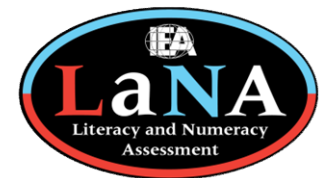   (D) A farmer

LaNA
Literacy and Numeracy Assessment

One day something terrible happened. The shepherd fell over and broke his leg. Jack barked and circled around him, but that didn't help one bit. The shepherd lay in the grass, not knowing what to do.

"Oh dear, oh dear," said the older sheep. "Somebody must go to the farmer's house in the valley and get help."

Charlotte said, "I'll do it. I'll go."

The older sheep were beside themselves with worry. But Charlotte had already left.

3. Why was the shepherd lying in the grass?

Ⓐ He didn't want to visit the farmer.

Ⓑ He had broken his leg.

Ⓒ He wanted to go to sleep.

Ⓓ He was gazing at the moon.

4. Where did the animals need to go to get help?

Ⓐ The hillside.

Ⓑ The farmer's house.

Ⓒ The shepard's house.

Ⓓ The city.

5. How did the older sheep feel when Charlotte left?

Ⓐ happy

Ⓑ relieved

Ⓒ worried

Ⓓ angry

Brave Charlotte

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

TIMSS & PIRLS
International Study Center
Lynch School of Education, Boston College

Brave Charlotte
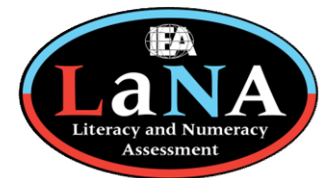
When Charlotte reached the busy road, it was the middle of the night. She stood and watched the traffic.

A truck driver noticed Charlotte and stopped.

It was so nice to speed along in the truck that Charlotte was almost sorry when they reached the farmer's house.

The farmer was asleep when Charlotte tapped on his window with her nose.

"It's Charlotte," said the farmer, "and she is all alone. Something must be wrong."

Charlotte and the farmer drove on the tractor to find the shepard.

They took him to the hospital right away.

6. What did Charlotte do when she reached the road?

   (A) She walked towards the farmer's house.

   (B) She stood and watched the traffic.

   (C) She tried to cross the road.
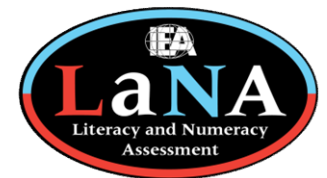
   (D) She waved for a truck to stop.

7. Why was Charlotte almost sorry to reach the farmer's house?

   (A) She missed the other sheep.

   (B) She would have to wake up the farmer.

   (C) She liked the ride in the truck.

   (D) She was worried about the shepherd.

8. How did the farmer know something was wrong?

   (A) Charlotte was all alone.

   (B) Charlotte told him.

   (C) Charlotte came in a truck.

   (D) Charlotte looked sorry.

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LaNA
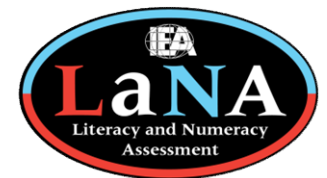Literacy and Numeracy Assessment

LaNA Numeracy

- Short test of basic facility with number

- Whole number computation

- Basic fractions

- Reading graphs

- 90 items, at least half from the TIMSS Numeracy 2015 assessment

47 + 25 =

(A) 18

(B) 62

(C) 72

(D) 99
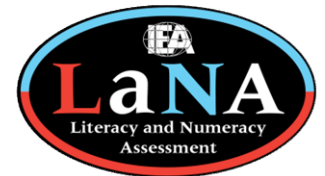
MN11017

There are 4 classes with 23 students each.
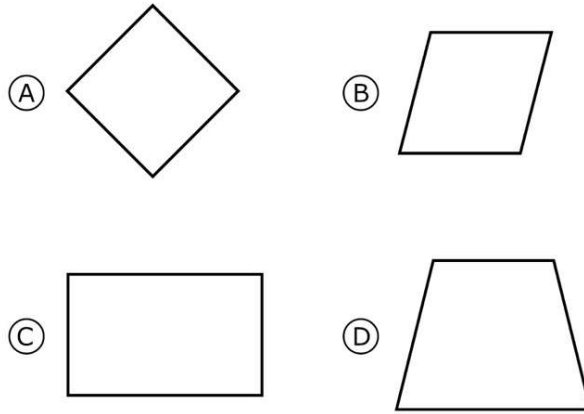
How many students are there all together?

(A) 122

(B) 92

(C) 27

(D) 19

MN11023

Which shape is a square?

(A) ◇

(B) ▱

(C) ▭

(D) ⏢

Which picture shows $\frac{1}{4}$ of the stars shaded?
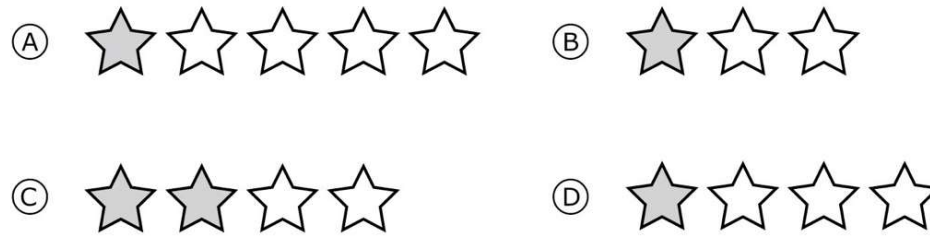
(A) ★☆☆☆☆

(B) ★☆☆

(C) ★★☆☆

(D) ★☆☆☆

LaNA
Literacy and Numeracy
Assessment
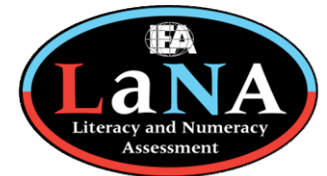
Policy Relevant Background Information

- School questionnaire
  - Resources
  - Environments for learning
- Student questionnaire
  - Home resources for learning
  - School experiences in learning to read
  - School experiences in learning mathematics

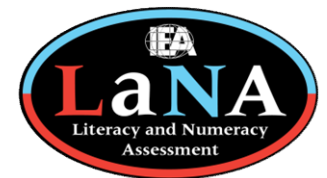**International Association for the Evaluation of Educational Achievement**
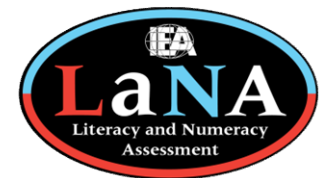
LaNA Assessment Design

- Each student assessed on hour
  - Half Literacy, half Numeracy
- Rotated design to minimize respondent burden
- 5 Literacy item blocks and 5 Numeracy item blocks assembled into 4 booklets
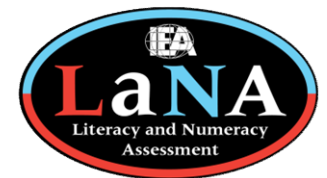
Capacity Building for Participating Countries

- Country representatives:
  - Provided with full package: manuals, training, support
  - Participate in international meetings to learn about LaNA assessment procedures
 - Attend seminars at the IEA DPC to learn about data management

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Reporting Assessment Results

- IEA will provide a report of the assessment results
  - Literacy and numeracy achievement results for country
  - In comparison to other LaNA countries, possibility for regional assessment
  - Project onto TIMSS and PIRLS International Achievement scales
- IEA will assist in further analysis and report writing to build capacity in these activities
- LaNA can be done "off cycle" = any time

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LaNA Literacy and Numeracy Assessment
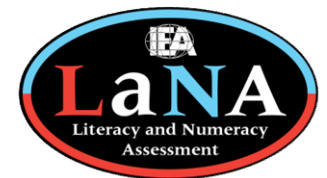
Thank you for your attention!

Questions?