

# The Philippine Mathematics Education Crisis: **What the ILSAs Say**

1

**GLADYS C. NIVERA**  
Philippine Normal University

\



# International Large-Scale Assessment (ILSA)

## WHY BOTHER?

““offers **good starting point** for obtaining feedback on the education system as it generates **crucial and reliable data**”

# Why do countries participate in ILSAs?

- 01 To provide evidence for policy
- 02 To reform curriculum and pedagogy
- 03 To respond to national politics
- 04 To maintain or promote international relations
- 05 For impact requirement for monetary aid

**Many  
countries  
stay away  
from the  
ILSAs**

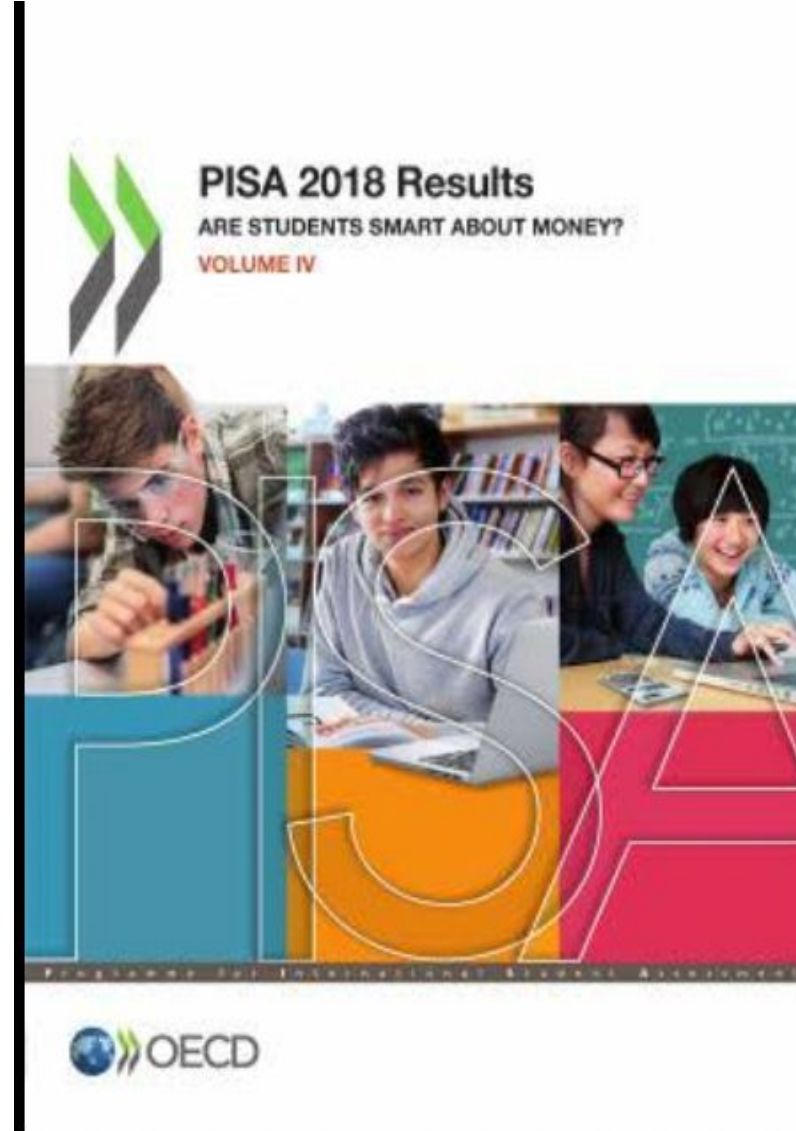
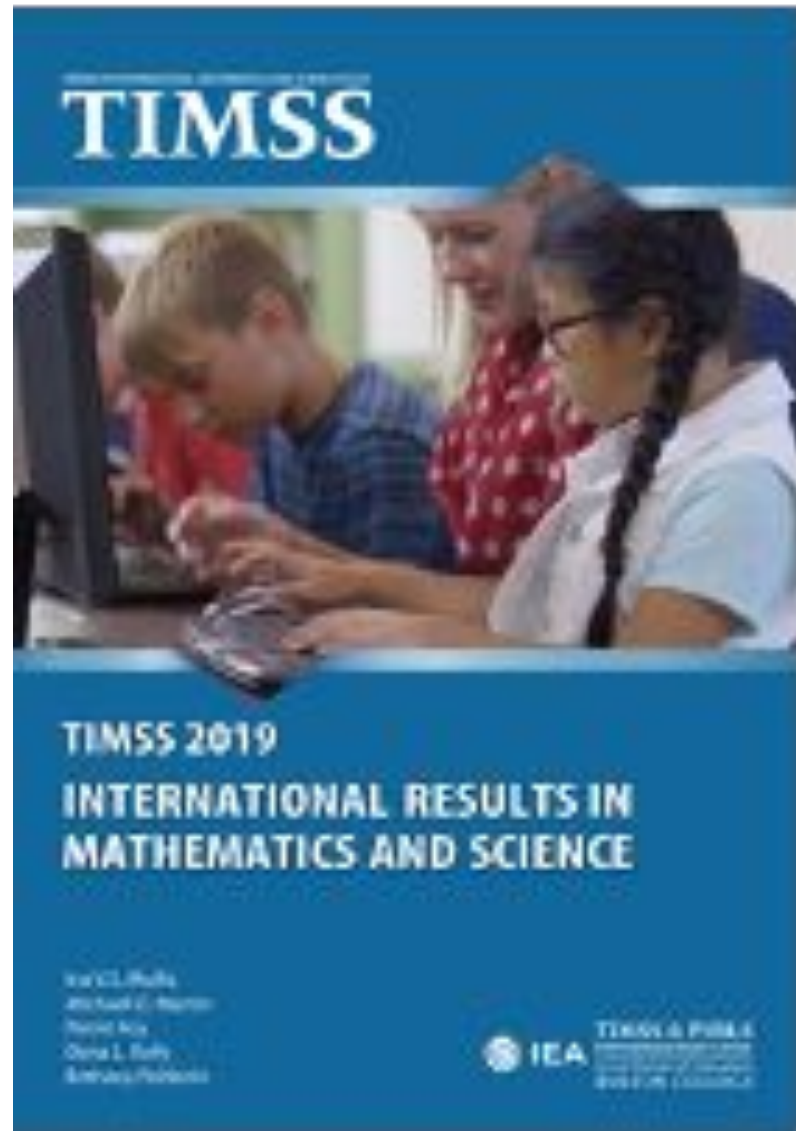
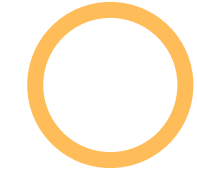
4



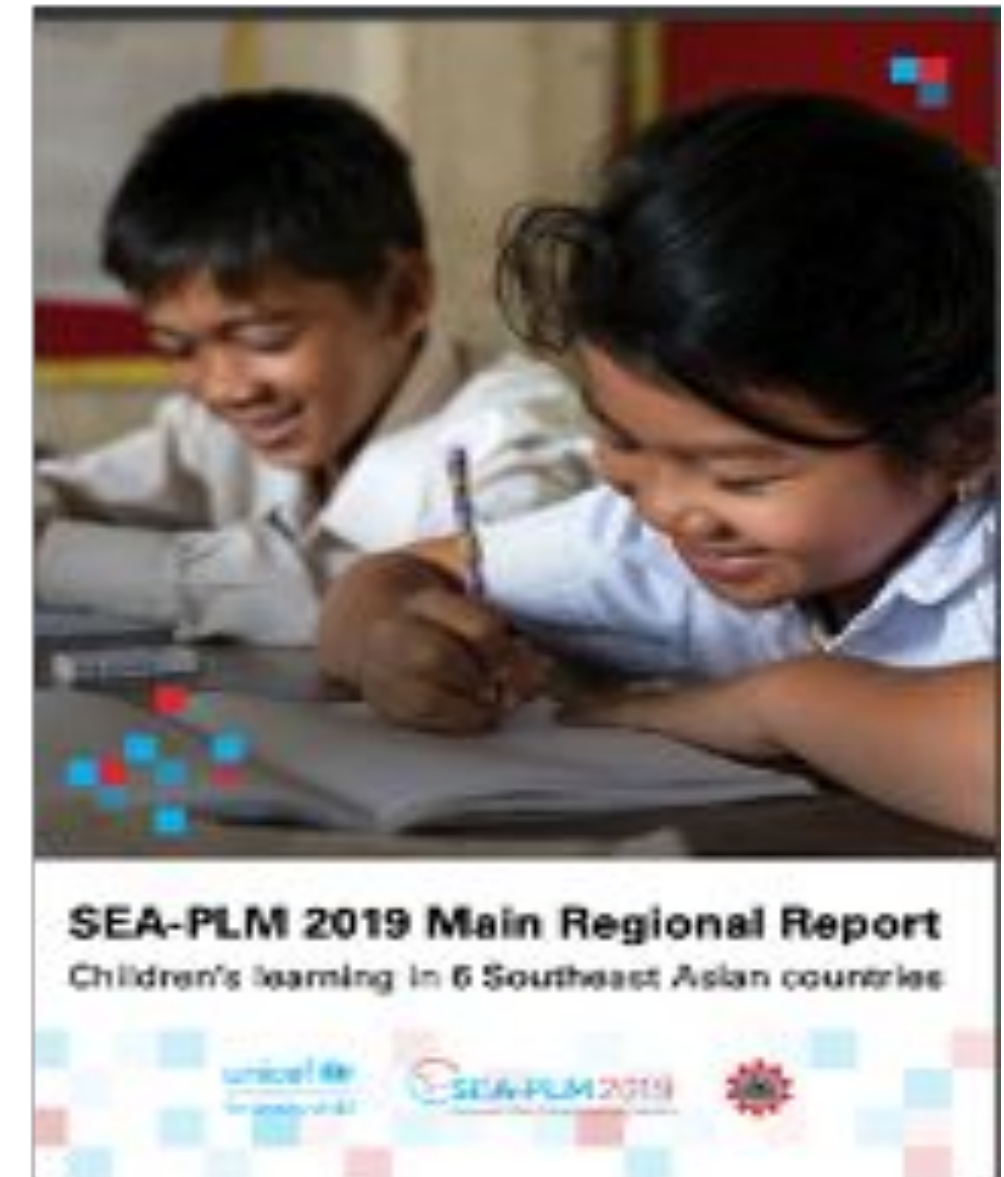
Do you want to know your score?

<b>ILSAs in a Snapshot</b>	<b>SEA-PLM 2019</b>	<b>TIMSS 2019</b>	<b>PISA 2018</b>
<b>Participants</b>	<b>Grade 5</b>	<b>Grade 4</b>	<b>15-year old students</b>
<b>Focus</b>	<b>Mathematics Literacy</b>	<b>Mathematics Achievement</b>	<b>Mathematics Literacy</b>
<b>Subject Areas</b>	<b>Mathematics, Writing, Reading</b>	<b>Mathematics, Science</b>	<b>Math, Science, Reading</b>
<b>Number of participating countries/economies</b>	<b>6 (ASEAN only)</b> <small>5</small>	<b>58( Global)</b>	<b>79 (Global)</b>
<b>Philippines' rank in mathematics</b>	<b>4th</b>	<b>58th</b>	<b>78th</b>
<b>% of students who reached the minimum proficiency/achievement for that Gr level</b>	<b>17%</b>	<b>13%</b>	<b>19.3%</b>

# RESOURCE MATERIALS



6



# SEA-PLM 2019 Results

01

The factors that correlated with better performance in math

pre-primary  
education

higher  
socio-econom  
ic background

attending large,  
well-resourced,  
and urban  
schools

spoke the  
language of  
the test

felt better  
and safer in  
schools

highly  
engaged  
parents

Had  
textbooks

# SEA-PL M 2019 Results

What Stood  
out from the  
Philippine  
Data

- 1 Only 17% passed in mathematics.
- 2 Only 13% passed in reading.
- 3 High percentage of grade repeaters
- 4 Lowest percentage of students who spoke the language of the test at home
- 5 Girls outperform boys
- 6 **50% of schools do not have libraries**



# TIMMS 2019 Results

01

## The factors that correlated with better performance in math

pre-primary  
education

Higher  
SES

attending  
well-resourced  
and affluent  
schools

more home  
resources

higher sense of  
belongingness  
to the school

experienced  
little or no  
bullying

highly  
engaged  
parents

# TIMMS 2019 Results

## What Stood out from the Philippine Data

- 01 Lowest out of 58 countries; only 13% “passed”
- 02 Girls outperformed boys
- 03 The lowest % of students (9%) who spoke the language of the test at home
- 04 The lowest % of students (8%) who are confident in doing math
- 05 Home literacy is among the lowest
- 06 Highest rate of absenteeism (with Pakistan)
- 07 Highest rate of bullying

# TIMMS 2019 Results

## What Stood out from the Philippine Data

- 08 Highest total instructional time
- 09 Instructional clarity is 3rd lowest
- 10 99% of principals reported resource shortages
- 11 The PH math curriculum covered the TIMSS topics better than the international average.
- 12 Teachers in PH received more PD than most countries, yet they're the ones who claimed they needed more PD.
- 13 Teacher's job satisfaction is 5th from the highest

# PISA 2018 Results

01

## The factors that correlated with better performance in math

pre-primary  
education

higher  
socio-econom  
ic background

attending large,  
well-resourced,  
and urban  
schools

<sup>12</sup>  
boys  
outperform  
girls

fewer  
absences

# PISA 2018 Results

## What Stood out from the Philippine Data

- 01 78th out of 79 countries; only 19.3% "passed"
- 02 Ranked last in reading; only 19.4% "passed"
- 03 **Lowest expenditure per student - 90% lower than the OECD average**
- 04 Only 6% speak the language of the test at home
- 05 Girls outperformed boys in all areas
- 06 Late entry<sup>13</sup> and grade level repetitions are observed among males and socio-economically disadvantaged students
- 07 Pre-primary education is one of the shortest
- 08 Most Filipino students experience bullying



# TRENDS AND INSIGHTS IN THE ILSA RESULTS

# Factors that correlate with better performance in mathematics



15

**Early start in education**  
(Pre-primary education/ early literacy/ home literacy)

**High socioeconomic status**

**Attending well-resourced, large, and urban schools**

# Some points to think about

- **Stronger economy does not mean better performance.**
- **Socio-economic disadvantage does not automatically lead to poor performance in math.**
  - How can we develop and support academically resilient students?
  - How can we improve equity and access?
  - How can we address the “urban advantage”?



# Where we ranked **LAST** (or close to it)



- 01 Spending on education per GDP (PISA 2019)
- 02 % of students who spoke the language of the test at home (SEA-PLM 2019, TIMSS 2019, PISA 2018)
- 03 Number of years in pre-school (PISA 2018)
- 04 Availability of home learning resources (TIMSS 2019)
- 05 Home literacy activities

**Where  
we  
ranked  
LAST  
(or close to it)**



- 06** Parents' engagement in early literacy and numeracy activities (SEA-PLM 2019; TIMSS 2019)
- 07** Availability of school resources (SEA-PLM 2019)
- 08** Instructional Clarity (TIMMS 2019)
- 09** Students' confidence in doing mathematics (TIMSS 2019)
- 10** % of students with growth mindset (PISA 2018)

**Where  
we  
TOPPED  
the  
ranking  
(or close to it)**

01

Incidence of Bullying (SEA-PLM 2019; PISA 2019)

02

Student absenteeism (TIMSS 2019)

03

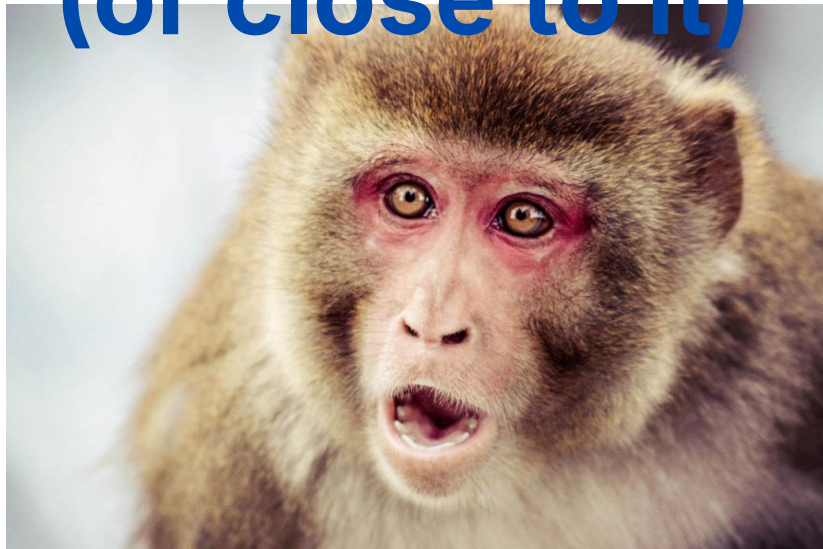
Students displaying disorderly behavior in class (TIMSS 2019)

04

Number of grade repeaters (SEA-PLM 2019, PISA 2018)

05

Principals reporting insufficient instructional materials and resource shortage (SEA-PLM 2019, PISA 2018)



**Where  
we  
TOPPED  
the  
ranking  
(or close to it)**

06

Instructional time spent on mathematics per year  
(TIMSS 2019)

07

Gender gap in mathematics performance in favor  
of the girls (SEA-PLM 2019, TIMSS 2019, PISA  
2018)

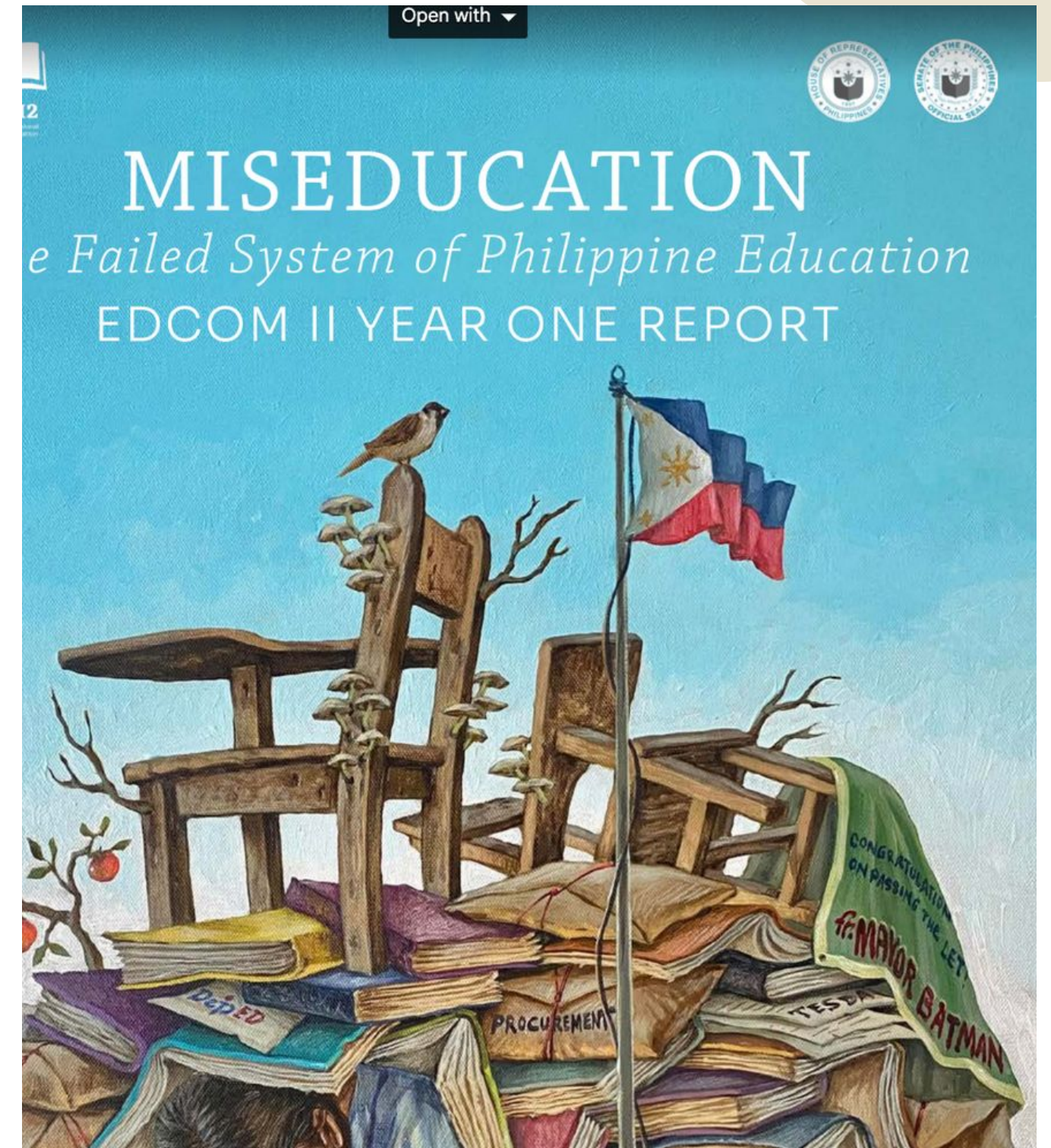


# TAKEAWAYS

TIMSS, PISA, and SEA-PLM differ in focus, purpose, scope, country participants, target grade level etc.

21

**Caution must be taken in identifying trends in the results.**



# TAKEAWAYS

**The ILSAs results spawn more questions than answers.**



Early math education/home learning resources/  
parental involvement

Quality of early childhood and elementary  
teachers<sup>22</sup>



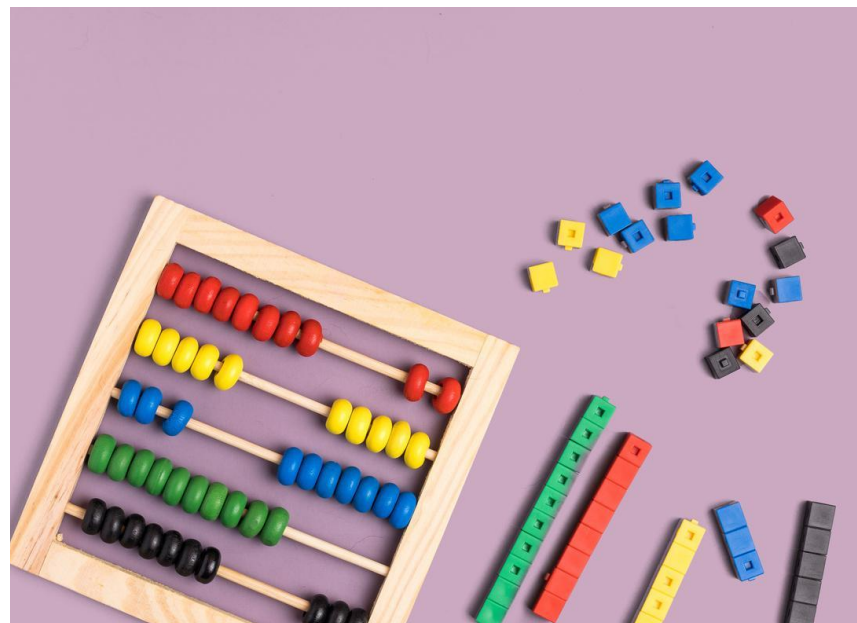
Is bullying cultural?

# TAKEAWAYS

**The ILSAs results spawn more questions than answers.**



Language  
policy/  
MTB-MLE



Learning resources/textbooks  
Curriculum

# TAKEAWAYS

**The ILSAs results spawn more questions than answers.**



Are boys marginalized?



Why did we score very low in instructional clarity?

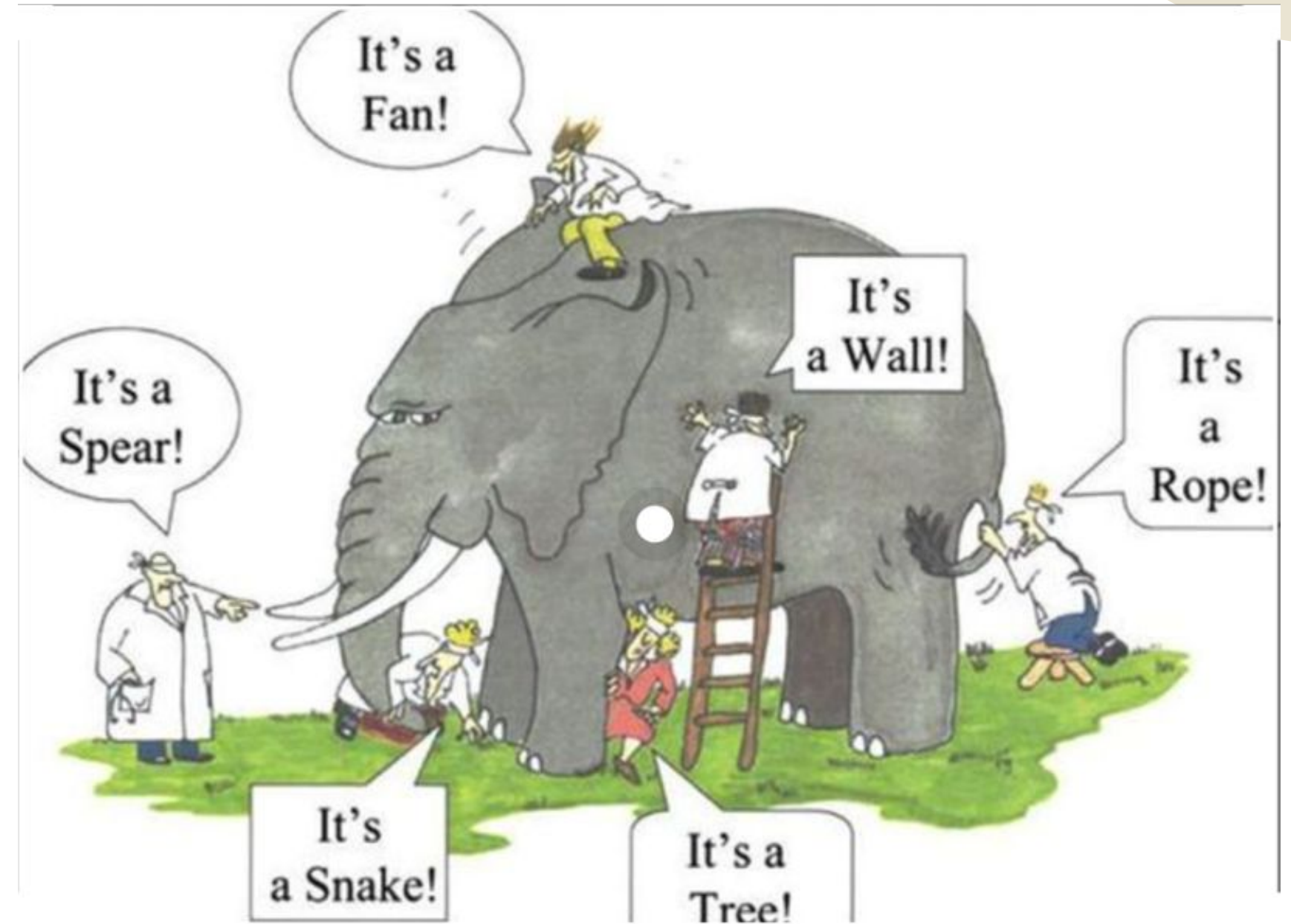
Why do teachers want more PD?



# TAKEAWAYS

**The ILSAs show the multi-dimensionality of the Philippine education crisis.**

25



# TAKEAWAYS

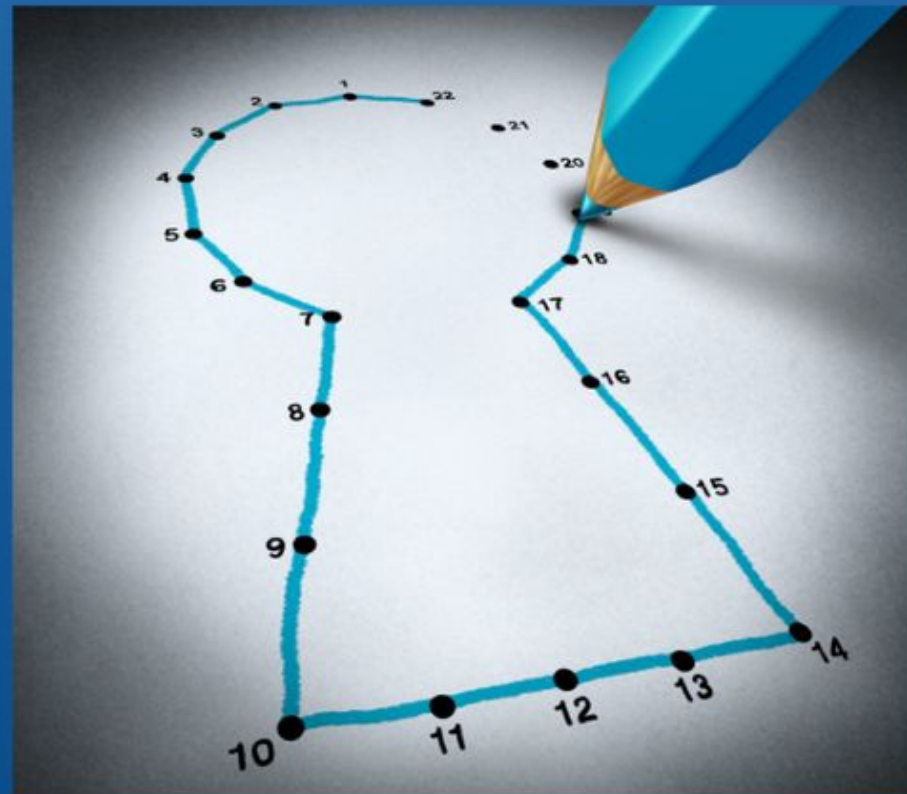
**Researchers** can help provide the missing data and offer answers and solutions.

26



THE PHILIPPINE MATHEMATICS EDUCATION CRISIS:

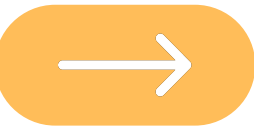
## What the ILSAs Say



GLADYS C. NIVERA

Reference:

<sup>27</sup> Nivera, G. (2024). *The Philippine mathematics education crisis: What the ILSAs say*. Manila: Philippine Normal University.



# THANK YOU

 FOR LISTENING

