

Update on TIMSS 2019 and 2023



7th Meeting of the Global Alliance to Monitor
Learning (GAML)

21 October 2020

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TIMSS & PIRLS
International Study Center
Lynch School of Education
BOSTON COLLEGE

TIMSS 2019 Facts

- International assessment of mathematics and science
- 4th and 8th grade
- 24 years of trends – 7th assessment cycle
- Comprehensive assessment frameworks
- 900 achievement items
- Context questionnaires from students, parents, principals, and teachers
- Administered via paper and pencil or online

64 countries and 8 benchmarking participants

Albania
Armenia
Australia
Austria
Azerbaijan
Bahrain
Belgium (Fl.)
Bosnia and Herzegovina
Bulgaria
Canada
Chile
Chinese Taipei
Croatia
Cyprus
Czech Republic
Denmark
Egypt
England
Finland
France
Georgia
Germany

Hong Kong SAR
Hungary
Iran
Ireland
Israel
Italy
Japan
Jordan
Kazakhstan
Korea
Kosovo
Kuwait
Latvia
Lebanon
Lithuania
Macedonia
Malaysia
Malta
Montenegro
Morocco
Netherlands
New Zealand

Northern Ireland
Norway
Oman
Pakistan
Philippines
Poland
Portugal
Qatar
Romania
Russian Federation
Saudi Arabia
Serbia
Singapore
Slovak Republic
South Africa
Spain
Sweden
Turkey
United Arab Emirates
United States

Benchmarking Participants

Ontario, Canada
Quebec, Canada
Moscow City, Russia
Gauteng, South Africa
Western Cape, South Africa
Madrid, Spain
Abu Dhabi, UAE
Dubai, UAE



580.000 students, their parents, teachers,
and principals

Total: 64 + 8
4th grade: 58 + 6
8th grade: 39 + 7



Achieved Milestones

- Main Data collection in autumn 2018 (SH), spring 2019 (NH)
- Scaling completed in May 2020
 - Challenging tasks as eTIMSS and paperTIMSS are to be reported on the same trend scale
 - eAssessment countries administered bridge data in paper format
 - Large numbers (80%) of trend items that behaved the same (mode invariant)
- Draft IDB and International report prepared
 - Single integrated report in online format

Upcoming Milestones

- Release at UNESCO, Paris – Dec 8 followed by EU Commission event, Brussels – Dec 9
- Release of *TIMSS 2019 International Database* – Jan 2021
 - *NEW: Release of eAssessment process data*

Other TIMSS Publications

- TIMSS 2019 Encyclopedia - Nov 17
 - Individual chapters submitted by each participating country (64 chapters)
 - Exhibits from Curriculum questionnaire
- Methods and Procedures - Dec 8
 - Documents technical aspects of developing, conducting, analyzing, and reporting the assessments
- Problem Solving and Inquiry in TIMSS 2019: Results from the PSI tasks – Jun 22



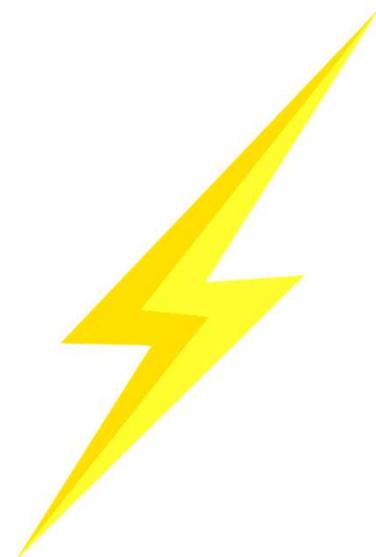
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Developments for TIMSS 2023



TIMSS 2023 Completes Transition to e-Assessment

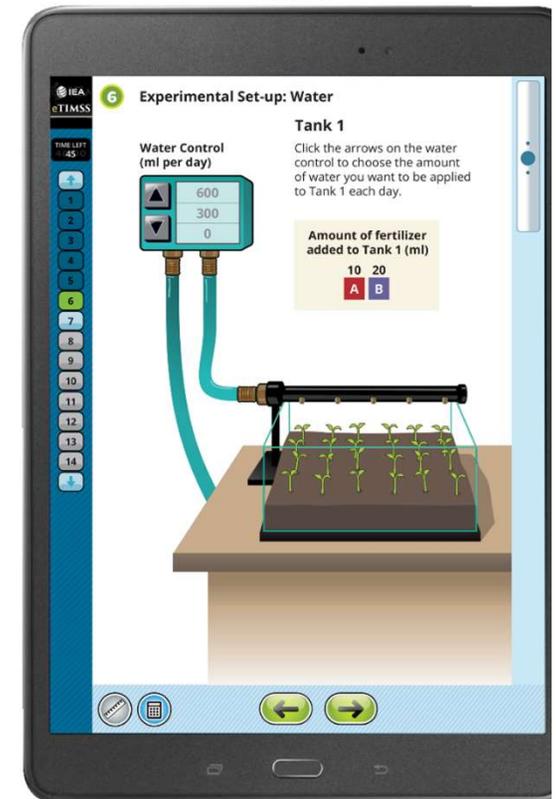
- Second stage of two-stage process
 - Half the countries transitioned to eTIMSS in 2019
 - Process completed with TIMSS 2023
- As many countries as possible do eTIMSS
 - Paper option available based only on trend items
 - No new items developed for paper



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Capitalizing on the Benefits of e-Assessment

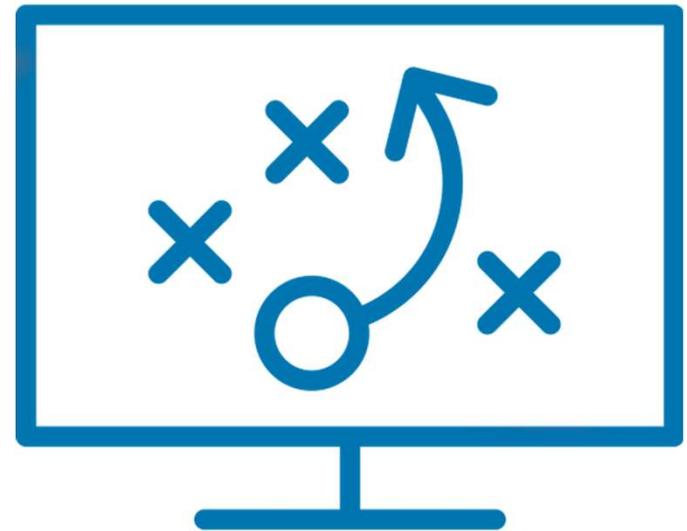
- Integrate Problem Solving and Inquiry (PSI) tasks
 - Extended scenario-based tasks and science investigations
- Extending innovative item types (Videos and animations, Creating various types of graphs, Freehand drawing...)



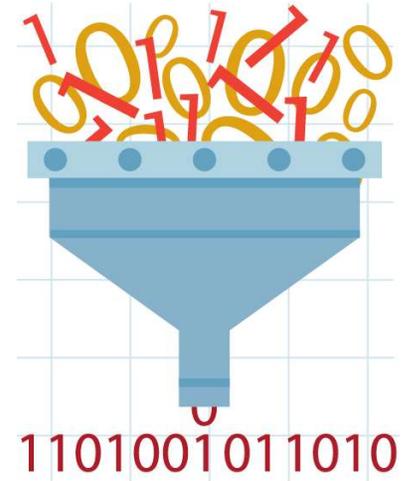
Making Use of Process Data

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- Incorporate reporting process data into international reports – timing and event data
- Use timing and event data to examine response patterns
 - Test taking strategies
 - Approaches to problem solving and inquiry
 - Evidence of strategy; more or less successful strategies
 - Disengaged students



Making Use of Process Data



- Computer based platforms record student interactions with the TIMSS and PIRLS assessments for quality control
 - Making sure test sessions can be completed and are on time
 - Helps finding issues in Field Test
- Computers can record more complex answers
 - In interactive items (PSIs) student responses tend to be 'authentic' (draw, drag, drop, write,...) computer tasks with many response modes
 - These complex responses are just like 'processes', they are interactive, and sequential

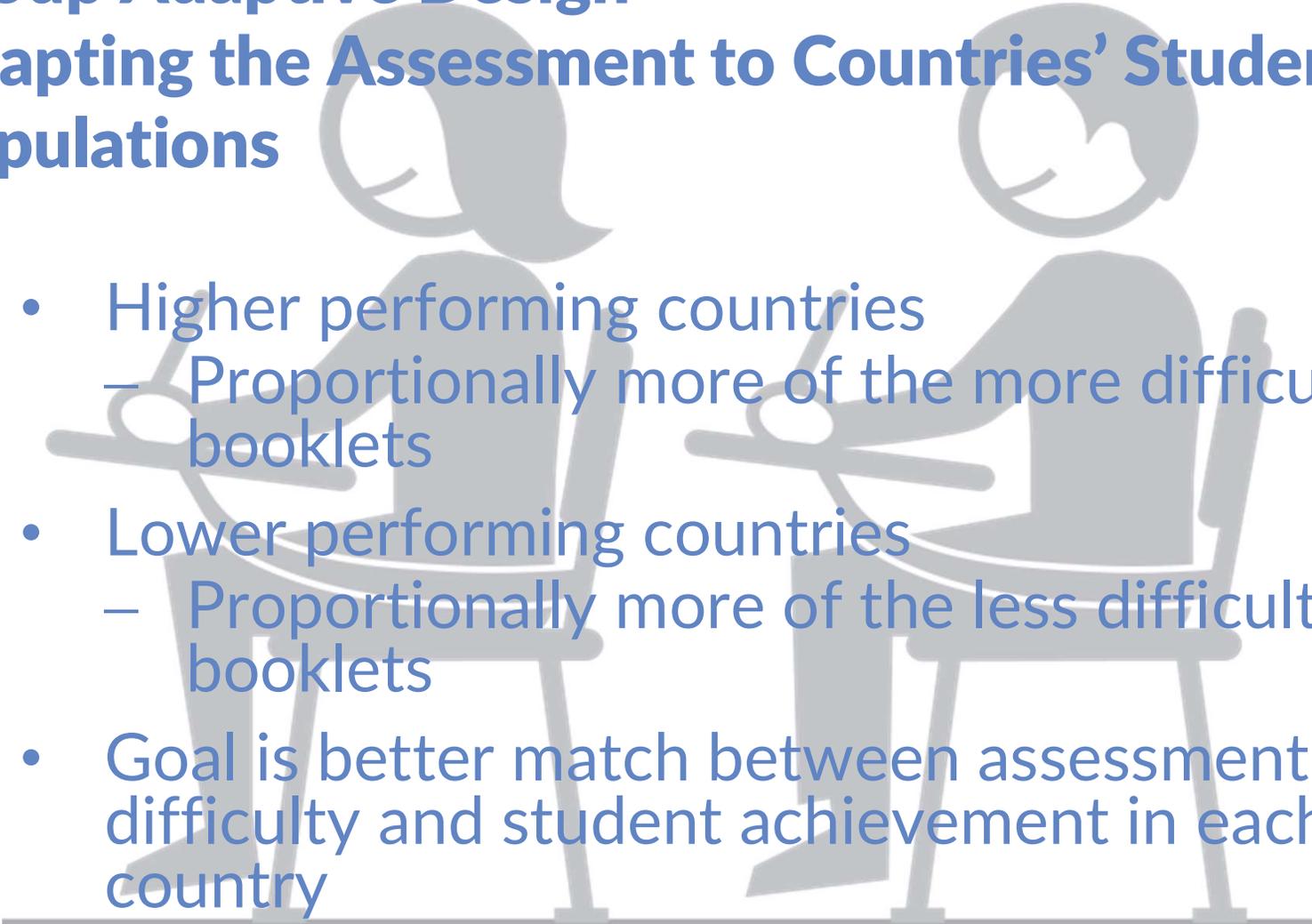
New Group Adaptive Design

Adapting the Assessment to Countries' Student Populations

- With each TIMSS and PIRLS assessment cycle, the range in achievement across the participating countries grows wider
- The new group adaptive design will improve measurement effectiveness for a country
 - Better alignment between assessment difficulty and student achievement
- For TIMSS 2023 the TIMSS & PIRLS International Study Center will develop assessment booklets that range from less difficult to more difficult

Group Adaptive Design

Adapting the Assessment to Countries' Student Populations

- Higher performing countries
 - Proportionally more of the more difficult booklets
 - Lower performing countries
 - Proportionally more of the less difficult booklets
 - Goal is better match between assessment difficulty and student achievement in each country
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Thank you for your attention!

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