Overview of TIMSS 2019
24 Years of Trends

• 64 countries, 6 benchmarking entities
  – 4th grade: 50 + 6; 8th grade: 40 + 5
• More than half transitioning to eTIMSS
• Mathematics and science assessments
  – 28 item blocks, 400 items/grade
  – Each for eTIMSS and paper
• eTIMSS includes Problem Solving and Inquiry tasks (PSIs)
  – 4 blocks each grade – 2 mathematics, 2 science
Countries Participating

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
Madrid, Spain
Abu Dhabi, UAE
Dubai, UAE
Preparing for the Field Test

- 2nd SMIRC meeting – reviewed draft achievement items for field test (Sept., Windsor)
- 2nd QIRC meeting – reviewed draft questionnaires (Sept., Hengelo)
- 3rd NRC meeting – final review (Nov., Melbourne)
- Field test instruments available for translation (Dec.)
TIMSS 2019 SMIRC – Science and Mathematics Item Review Committee

Mathematics Experts

- Ray Philpot, Australia
- Kiril Bankov, Bulgaria
- Khattab Mohammad Ahmad Abu Libdeh, Jordan
- Arne Hole, Norway
- Cheow Kian Soh, Singapore
- Mary Lindquist, United States
- Linda Hall, United States
TIMSS 2019 SMIRC – Science and Mathematics Item Review Committee

Science Experts
- Svatava Janouskova, Czech Republic
- Emily Jones, England
- Jouni Viiri, Finland
- Berenice Michels, Netherlands
- Galina Kovaleva, Russian Federation
- Christopher Lazarro, United States
TIMSS 2019 QIRC – Questionnaire Item Review Committee

- Sue Thomson, Australia
- Josef Basl, Czech Republic
- Heike Wendt, Germany
- Laura Palmerio, Italy
- Martina Meelissen, Netherlands
- Trude Nilsen, Norway
- Vijay Reddy, South Africa
- Jack Buckley, United States
Conducting the Field Test

March – April

• 4th grade
  – 56 + 6 countries; 73,000 students

• 8th grade
  – 36 + 5 countries; 48,500 students

• Data cleaning and validation
  – IEA Hamburg

• Psychometric analysis
  – TIMSS & PIRLS International Study center
  – Achievement and questionnaire items
3-Step Field Test Review Process

1. Internal review by staff of TIMSS & PIRLS International Study Center (June)
   - Mathematics and science, eTIMSS and paperTIMSS

2. Review by expert committees (July)
   - SMIRC review for achievement items - Tromso
   - QIRC review for questionnaires - Oslo

3. Final review by National Research Coordinators (Aug)
   - 5th NRC meeting, Stockholm
Providing Data Collection Instruments

- Post Questionnaires for data collection
  - 4th and 8th grades (Aug 30)

- Post advance versions eTIMSS for SH countries
  - 4th grade (Aug 27); 8th grade (Aug 31)

- Post 4th grade achievement items (Sept 6)

- Post 8th grade achievement items (Sept 13)
  - eTIMSS in Online Translation System
  - paperTIMSS in InDesign
eTIMSS Assessment System

- Item Builder to enter mathematics and science items
- Online Translation System allows items to be translated and verified
- eTIMSS Player for administering assessment and capturing student responses
- Scoring System for scoring student responses
  - Online for constructed response items
  - Automated scoring for new item types, e.g., number pad, line drawing, drop-down menus, drag-and-drop
Supporting Activities

- Right-to-left language source version
- Paper bridge instruments for eTIMSS countries
- Complete array of operations manuals
- Scoring – constructed response and machine
- Finalizing sampling plans
- Translation verification
- Layout verification
- Quality Control Monitoring
TIMSS 2019 Data Collection

Oct – Dec 2018

Southern Hemisphere

March – June 2019

Northern Hemisphere
Looking Ahead...

• Data analysis and reporting
  – Background data reviewed by NRCs (Dec 2019)
  – Sampling adjudication (Feb 2020)
  – Achievement scaling (Mar-Apr 2020)
  – Draft Report reviewed by NRCs and PEC (Jun 2020)

• Release Results (Dec 2020)

• International Database (Feb 2021)
TIMSS 2023

28 years of trends!

- Complete TIMSS move to e-assessment
  - Future of paperTIMSS
- Reap the e-assessment benefits
  - Begin move to adaptive assessment
  - Expand Problem Solving and Inquiry (PSI) scope
  - Further research into process data
  - Include new ideas from countries as appropriate
Thank You!
TIMSS 2019 Beginning Data Collection!

Ina V.S. Mullis and Michael O. Martin

IEA General Assembly
Astana, Kazakhstan

October 9-12, 2018