

# TIMSS Advanced 2008

## Analysis and Reporting

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50<sup>th</sup> IEA General Assembly

Tallinn, 5-8 October, 2009

# TIMSS Advanced

- Assesses school-leaving students with special preparation in
  - Advanced mathematics
  - Physics
- First administered in 1995
  - Trends 1995, 2008
  - Baseline data for new countries

# Countries Participating

- Armenia
  - Italy
  - Iran
  - Lebanon
  - Netherlands
  - Norway
  - Philippines
  - Russian Federation
  - Slovenia
  - Sweden
- Also participated in 1995

# Major Accomplishment

Since last General Assembly:

**Completed Scaling, Analysis,  
and Reporting!**

# TIMSS Advanced Coordinators - Same as in 1995

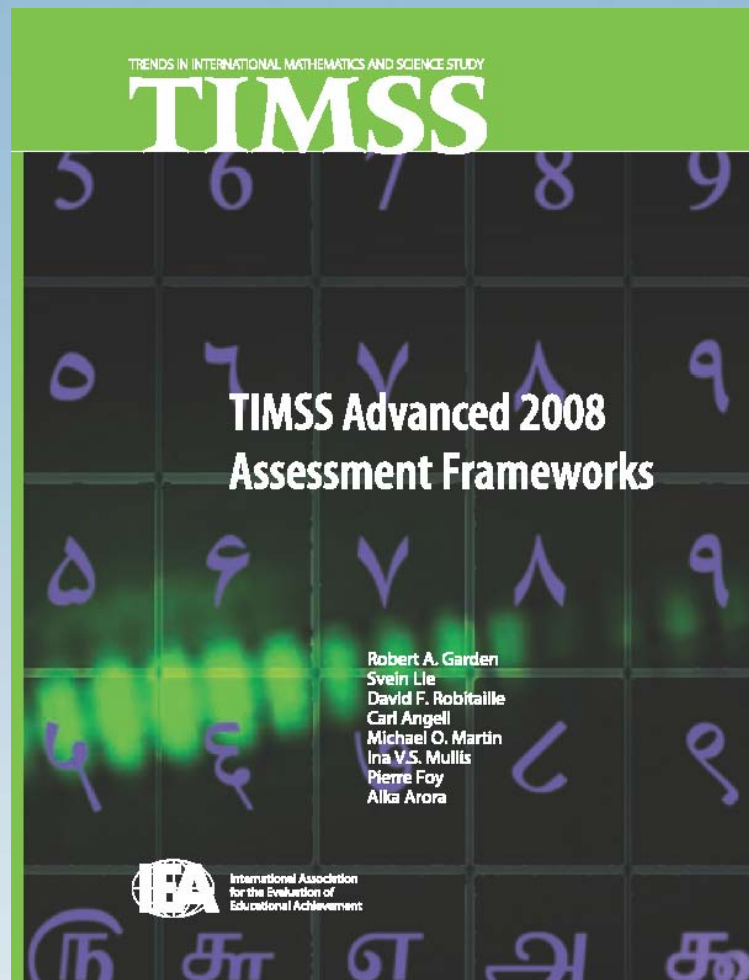
- Bob Garden – Coordinator, Advanced Mathematics
- Svein Lie – Coordinator, Physics
- Substantial development support from Norway

# TIMSS Advanced Assessment Specialists

- Staff at TIMSS & PIRLS ISC
  - Content/measurement experience
  - Production/graphics experience
- IEA Secretariat and DPC
- Statistics Canada
- NRCs – National Research Coordinators
  - Knowledgeable and experienced

# TIMSS Advanced 2008 Assessment Frameworks

Published  
September 2006



# Advanced Mathematics Domains

## Content Percentages

Algebra	35%
Calculus	35%
Geometry	30%

## Cognitive

Knowing	35%
Applying	35%
Reasoning	30%



# Physics Domains

Content	Percentages
Mechanics	30%
Electricity and Magnetism	30%
Heat and Temperature	20%
Atomic and Nuclear Physics	20%

Cognitive	Percentages
Knowing	30%
Applying	40%
Reasoning	30%

# Scope of Assessment

- Total assessment time – 7 hours
- Each subject - assessment time
  - 3 hours, 30 minutes
  - 7 30-minute blocks
  - 3 trend blocks, 4 new blocks
- Each student
  - One 90-minute booklet of 3 blocks
- 8 booklets in total – 4 per subject

# Questionnaires

- Student Questionnaires
  - Advanced mathematics
  - Physics
- Teacher Questionnaires
  - Advanced mathematics
  - Physics
- School Questionnaire
- Curriculum Q. (adv. math. and physics)

# Major Activity – Prototype Tables for International Report

12 chapters - 6 advanced mathematics, 6 physics

- Curriculum
- Summary of Achievement
- Achievement at International Benchmarks
- Student backgrounds and attitudes
- Teachers and instruction
- School contexts

# Major Activity – TIMSS Advanced 2008 International Report

- NRCs submitted data to IEA DPC
  - September 2008
- TIMSS & PIRLS ISC and IEA DPC completed data almanacs and draft exhibits
  - December 2008
- NRCs reviewed report exhibits with background data at 6<sup>th</sup> NRC meeting
  - January 2009, Hengelo, The Netherlands

# Major Activity – Scaling and Analysis for 2008

## IRT Scales linking 2008 to 1995

- Advanced mathematics
- Physics

## Average percent correct

- Content domains
  - Advanced Mathematics: Algebra, Calculus, Geometry
  - Physics: Mechanics, Electricity and magnetism, Heat and temperature, Atomic and nuclear physics
- Cognitive domains
  - Knowing, applying, reasoning in each subject

# Major Activity – TIMSS Advanced 2008 International Report

- Sampling adjudication - TIMSS & PIRLS  
ISC, Statistics Canada, Sampling Referee  
– January 2009
- TIMSS & PIRLS ISC and ETS completed  
achievement scaling  
– April 2009
- Task Force conducted scale anchoring  
– April 2009, Boston

# Major Activity – TIMSS Advanced 2008 International Report (cont.)

- TIMSS & PIRLS ISC and IEA DPC completed data exhibits – May 2009
- TIMSS & PIRLS ISC drafted International Reports – June, July 2009
- NRCs reviewed draft at 7<sup>th</sup> NRC meeting – August 2009, Stockholm
- Also IEA Publications Committee review



# Major Activity – TIMSS Advanced 2008 International Report (cont.)

- International Report exhibits sent to NRCs
  - September 15, 2009
- Draft International Database sent to NRCs
  - September 17, 2009

# Major Activity – TIMSS Advanced 2008 International Report (cont.)

- International Report printed and distributed to NRCs
  - November 2009
- International press release
  - December 9, 2009, Oslo
  - 10:00am CET



# Major Activity – TIMSS Advanced 2008 International Report (cont.)

- Technical Report posted on web
  - December 9, 2009
- International Database and User Guide distributed to NRCs and posted on web
  - December 15, 2009

# TIMSS Advanced 2008 International Report

# Confidential Preview

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