

AME-SMS CONFERENCE 2014

Theme: Assessment in Mathematics

5 June 2014, Singapore

Assessment in PMRI for
Primary pupils workshop

Zulkardi and Ratu ilma
Sriwijaya University, Indonesia

Agenda

- Introduction
- What and why PMRI
- Assessment
- Workshop

PMRI

(Pendidikan Matematika Realistik Indonesia)

is the Indonesian version of
Realistic Mathematics Education.

RME is developed in the Netherlands .

PMRI is developed in Indonesia.

Why PMRI?

- **Modern mathematics was abandoned in the early 1990's . A group of Indonesian mathematicians tried to find what should to replace it.**
- **Teaching by telling is still a predominant way of teaching. Students dislike mathematics.**
- **Students achievement was low in mathematics by international standard (PISA, TIMSS)**
- **A drive for social transformation.**

First step

- **In 1998, Indonesian government sent 6 students in math education to do a Ph.D. research in RME in the Netherlands.**
- **They have now become the backbone of the movement.**

Indonesian-Dutch cooperation

- **First phase, informal 1998-2003**
- **Second phase, 2003-2005, support project started**
- **Third phase, 2006-2010, partners in IP-PMRI and DO-PMRI**
(APS and Freundenthal Institute University Utrecht, NL)



MAIN ACTIVITIES of PMRI

- Series of PMRI **workshops** for school teachers
- PMRI **publications** (magazine, website)
- PMRI **tasks forces**: Research, learning materials and P4MRI network (www.p4mri.net)
- Developing **Standards** of PMRI
- Designing International **master program** on PMRI
- PMRI as content of QITEB, **training center** for mathematics teachers from ASEAN countries

IMPROVEMENT on Professional Development of School Teacher and Teacher Educator

- **National Workshop**, for teacher of PMRI pilot schools and related LPTKs; 2 times a year
- **Local workshop**, for new teachers and teacher educators from LPTK
- **Follow-up Workshop**, for teachers and teacher educators who implement PMRI

Improvement in Research on PMRI

- Focusing on Design Research in pilot schools
- 10 PhD. Dissertations
- \pm 100 Master Theses
- \pm 100 Undergraduate final projects
- Government grants for PMRI team

Improvement on Publications on PMRI: Books & National Academic journal

A decade of PMRI in Indonesia

Edited by
Rudini Sembiring
Aris Hidayat
Muzniwati

IndoMS
The Indonesian Mathematical Society

Journal on Mathematics Education (IndoMS-JME)

Current issue IndoMS-JME
December 28th, 2010

Indonesian Mathematical Society Journal on Mathematics Education
(IndoMS-JME)

Special Issue: Pendidikan Matematika Realistik Indonesia
(Indonesian version of Realistic Mathematics Education)

July 2010, Volume 1, No. 1

Articles

[Designing a mathematics curriculum](#)(PDF file, 63KB)
Lee Peng Yee, NIE Singapore 12

[Pendidikan Matematika Realistik Indonesia: Perkembangan dan Tantangannya](#)(PDF file, 53KB)
R.K. Sembiring, Head of PMRI Team 13

[Leveling Students' Creative Thinking in Solving and Posing Mathematical Problem](#)(PDF, 1.6 MB)
Tataz Yuli Eko Siswono, Unesa Surabaya 20

Pages

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links

- > ICME12
- > JIMS-A
- > KNM16_2012
- > KNPM4-2011
- > Website IndoMS Pusat

Meta

- > Log in
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- > Comments RSS
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December 2010

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Improvement on Publications: Magazine

ISSN 1907-8358

M A J A L A H
pmri
PENDIDIKAN MATEMATIKA REALISTIK INDONESIA

Vol. V No. 2, April 2007 • Terbit 4 kali setahun • Gratis

• SD Al Hikmah: Mencetak Generasi Berbudhi dan Berprestasi
• Gatot Sulanjono: Membangun Kebersamaan untuk Keunggulan Sekolah
• Kepsek SD Al Hikmah: "PMRI adalah wadah besar"
• Memaknai Hasil Kerja Siswa
• "Liburan" di Enschede

Diterbitkan Oleh:
Institut Pengembangan Pendidikan Matematika Realistik Indonesia (IP-PMRI)
Fakultas Matematika dan Ilmu Pengetahuan Alam
Institut Teknologi Bandung
Gedung Basic Sciences Center A ITB, Jl. Ganesha 10 Bandung 40132
Telp/Fax 022-2534282
Website: www.pMRI.or.id - E-mail: redaksi@pmri.or.id

M A J A L A H
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PENDIDIKAN MATEMATIKA REALISTIK INDONESIA

Vol. V No. 4, Oktober 2007 • Terbit 4 kali setahun

Anak-anak belajar matematika pernah saja di belajar pejalan mereka membuat roti yang dipotong-potong dan diberi selai

Prof Dr Muchlas Samani:
"PMRI Jangan Tinggalkan yang Baik dari Pembelajaran Matematika Terdahulu"

M A J A L A H
pmri
PENDIDIKAN MATEMATIKA REALISTIK INDONESIA

Vol. VI No. 2, April 2008 • Terbit 4 kali setahun

WORSHOP LOKAL PMRI UNNES
Mela... Kita! ...an Mer... ai Cerr... donesia
dang ...ematika... 2...
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SD Petra Semarang Semakin Maju Setelah Bergabung dengan PMRI

- Prof. Muchlas Samani: Kemajuan suatu bangsa ditentukan oleh inovasi
- Pembelajaran pengolahan data
- Pembelajaran pencerminan
- Strategi sukses UASBN
- Pembelajaran dengan pendekatan PMRI disetujui siswa

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Gedung Basic Sciences Center A ITB, Jl. Ganesha 10 Bandung 40132
Telp/Fax 022-2534282
Website: www.pMRI.or.id - E-mail: redaksi@pmri.or.id

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PENDIDIKAN MATEMATIKA REALISTIK INDONESIA

Vol. VI No. 1, Januari 2008 • Terbit 4 kali setahun

PMRI Berupaya Membantu Sekolah
Mencetak Generasi yang Sehat, Rasional, Kreatif, dan Berbudhi Luhur

M A J A L A H
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PENDIDIKAN MATEMATIKA REALISTIK INDONESIA

Vol. VI No. 3, Juli 2008 • Terbit 4 kali setahun

u Bersama PMRI

... SD antusias
...njunngan Anggota
... tua Tim PMRI

- Jangan Mengajarkan Angka
- Guru ASEAN Akan Mengikuti Pelatihan PMRI
- Standar PMRI Telah Dirumuskan
- Start-up Workshop PMRI di Makassar

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Telp/Fax 022-2534282
Website: www.pMRI.or.id - E-mail: redaksi@pmri.or.id

PROGRESS on Standards PMRI

PMRI standard for:

- Lesson
- Workshop
- Learning Material
- Teacher
- Lecturer
- Center of excellence

Designing an Intl' Master Program on PMRI : Unesa, Unsri & University Utrecht

- 1 year in Indonesia;
 - PMRI courses and Research in Indonesian Schools;
 - Indonesian Scholarship
- 1 year in Utrecht
 - RME courses
 - NUFFIC Neso Scholarship



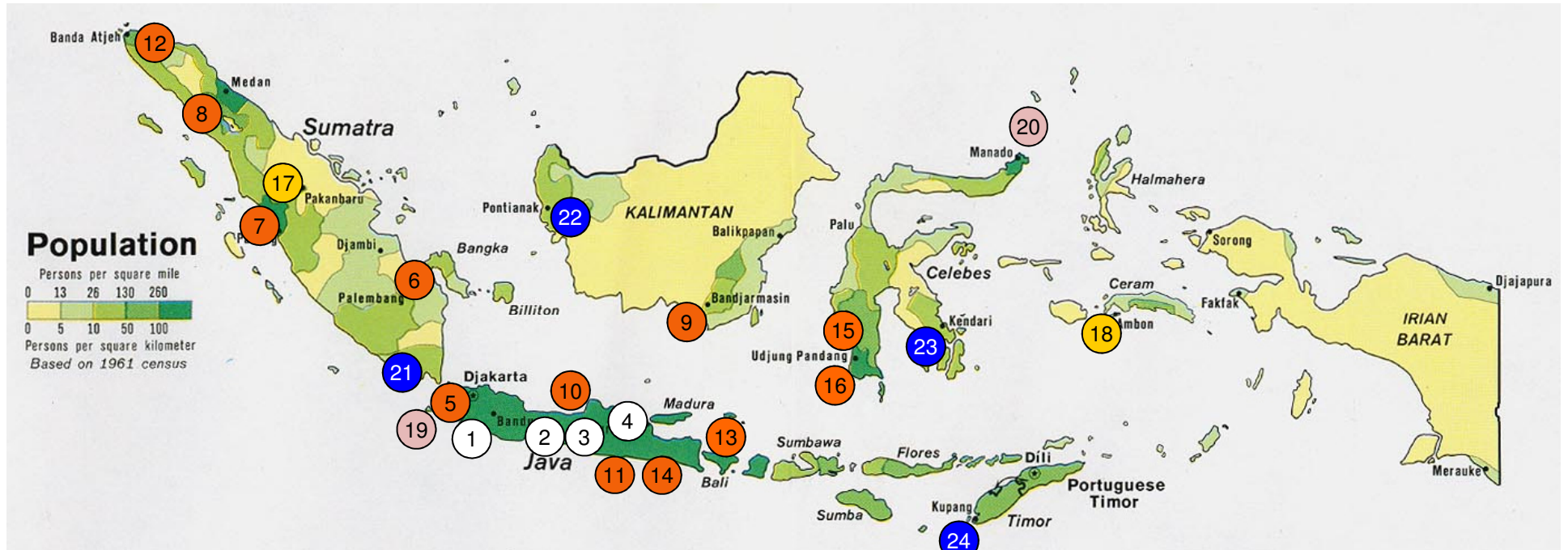
Improvement in National Curriculum and Testing

- PMRI characteristics are included in New National Curriculum (2006).
 - Students learning mathematics should use real life contexts that familiar to the students.
 - Use constructivist approach in mathematics learning process
- National Testing
 - More PISA like items

Developing Local Center of PMRI (P4MRI)



The increase in number of universities (24) & schools (± 10000) involved



SINCE 2001: UPI, UNY, USD, UNESA

SINCE 2003: UNJ, UNSRI, UNP, UNIMED, UNLAM, UNSYIAH, UNNES, UM, UNDIKSHA, UINM, UNM, UMM

2008: UNRI, UNPATI

2009: UNIMA, UINJ

2011: UNILA, UNTAN, UNRAM, UNDANA

Portal of PMRI

ip-pmri

institut pengembang
pendidikan matemati
realistik indones

home p4mri universitas sekolah materi galeri artikel agenda impome majalah
applet sejarah

Search

BERITA TERKINI

PISA 2009 Rangking Indonesia

PISA 2009 Results (Hasil PISA
2009)

Basiswa PMRI di Dikti

Pertemuan Core Team dan
Rapat Akhir Tahun

Forum PMRI Agenda

Universitas

1. [Universitas Syiah Kuala \(UNSYIAH\)](#) - Aceh
2. [Universitas Negeri Medan \(UNIMED\)](#) - Medan
3. [Universitas Riau \(UR\)](#) - Riau, Pekanbaru
4. [Universitas Negeri Padang \(UNP\)](#) - Padang
5. [Universitas Sriwijaya \(UNSRI\)](#) - Palembang
6. [Universitas Negeri Jakarta \(UNJ\)](#) - Jakarta
7. [Universitas Islam Negeri Syarif Hidayatullah](#) - Jakarta



Kontes
Literasi
Matematika

KLM



PISA
since 2010

Aceh
Medan
Padang
Palembang
Jakarta
Bandung
Jogyakarta
Semarang
Surabaya
Malang
Banjarmasin
Makassar
Bali
Manado
Kupang

Assessment in PMRI

Firefox Tab baru http://math.nie.edu...ms14/pr.aspx?ID=4

math.nie.edu.sg/ame/amesms14/pr.aspx?ID=4 Mysearchdial

Sering Mampir Perkenalan Suggested Sites Web Slice Gallery Yahoo! Mail

My Search Dial Search >> Is Your PC Slow? Click Get Media Player Plugin

Firefox telah mencegah plugin lawas "Adobe Flash" untuk dijalankan di math.nie.edu.sg. Tetap Blokir Izinkan...



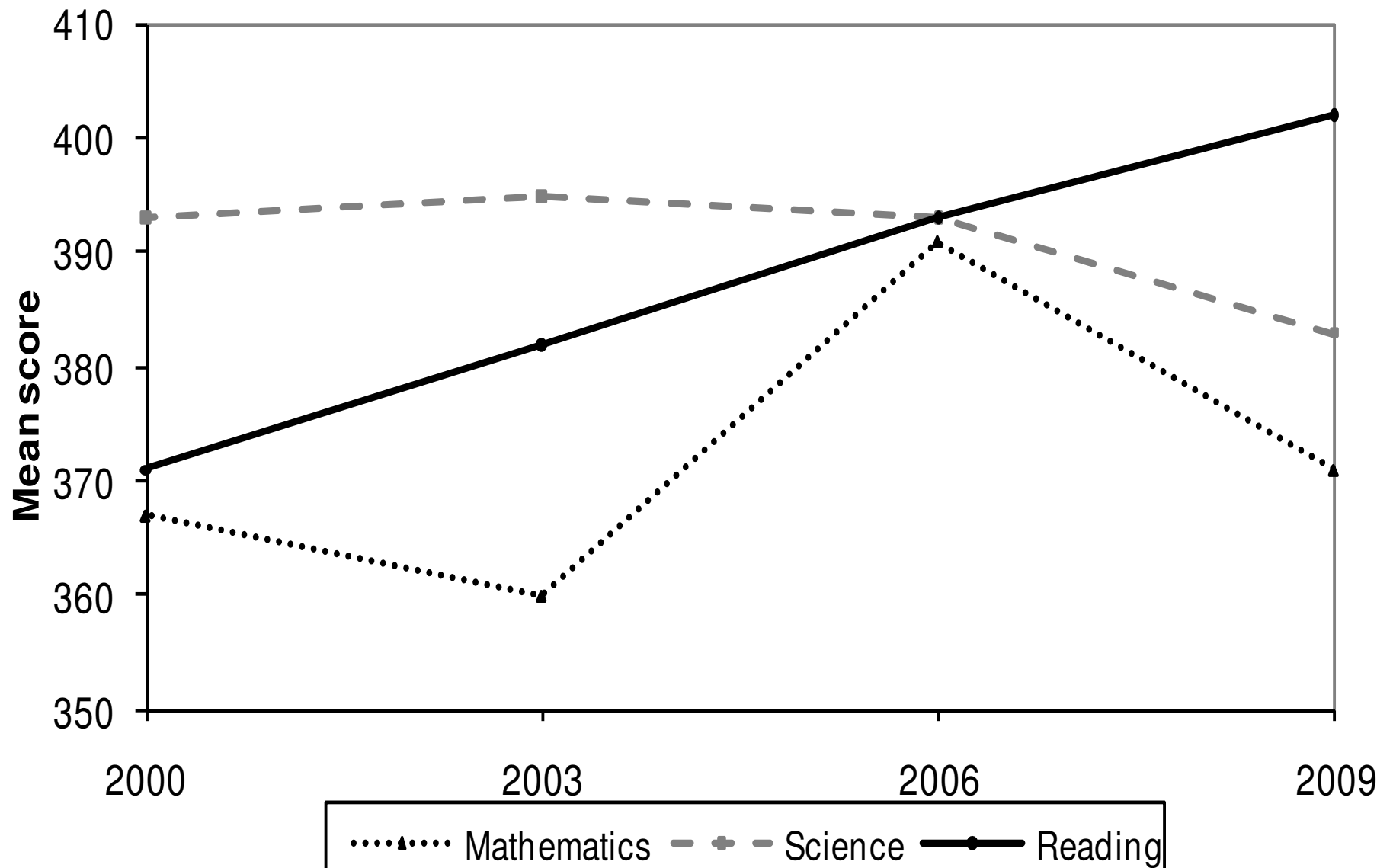
P5

Assessment in Indonesian realistic mathematics education for primary pupils

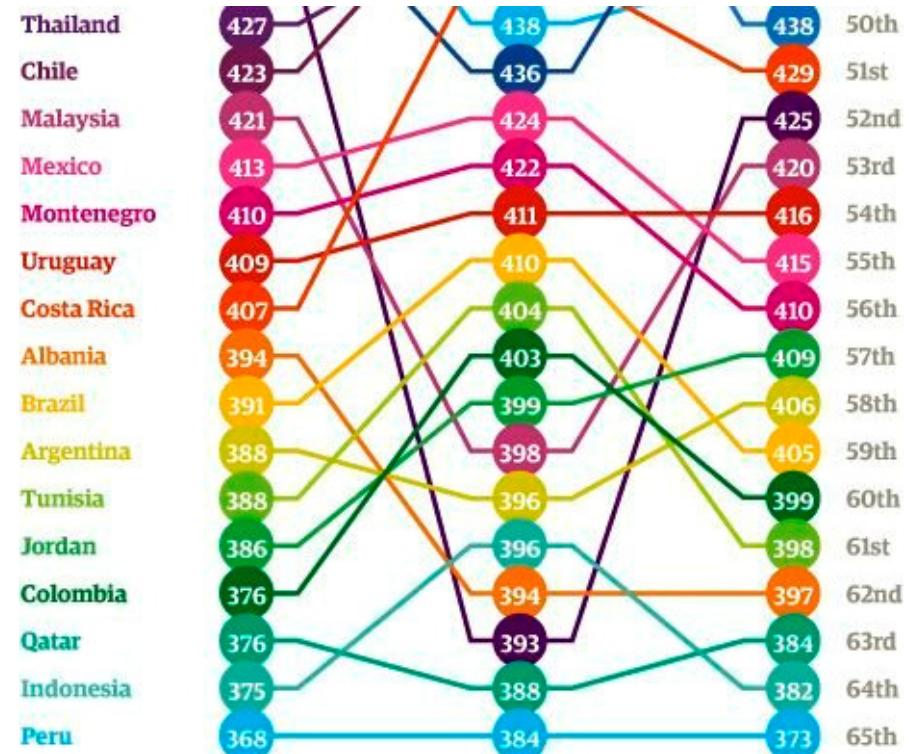
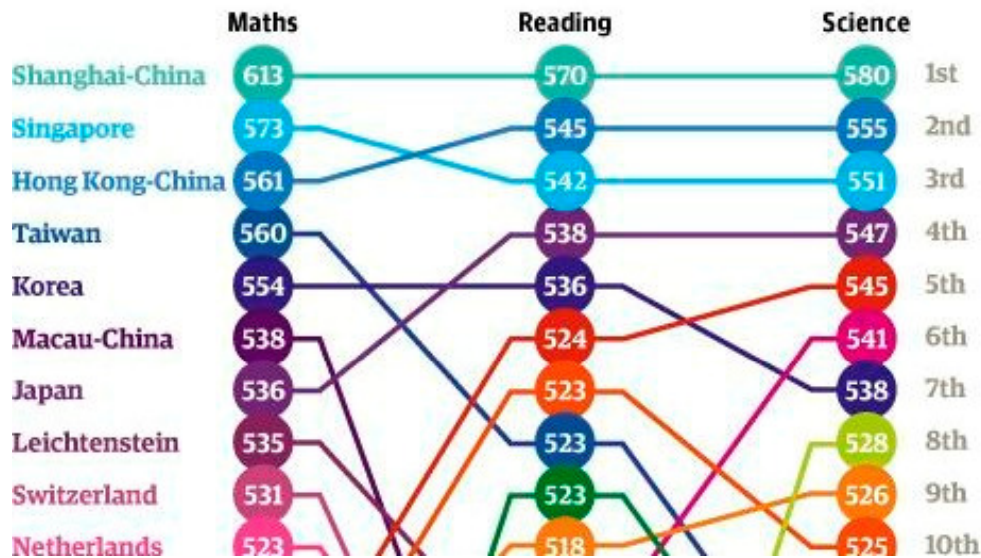
Dr Zulkardi & Dr Ratu Ilma, Sriwijaya University, Palembang, South Sumatra, Indonesia

Abstract: During the workshop we are going to share our experience in doing mathematics especially the assessment part or Indonesian Realistic Mathematics Education (PMRI). First, example of tasks or problems that were designed using PMRI principles will be provided. Then, participants will be guided to solve such problems either individually or in a group. Then, of course, the various solutions of a given problem will be discussed in order to find the best solution. At the end, participants will also have experience how to design their own assessment items using PMRI principles in the Singapore context.

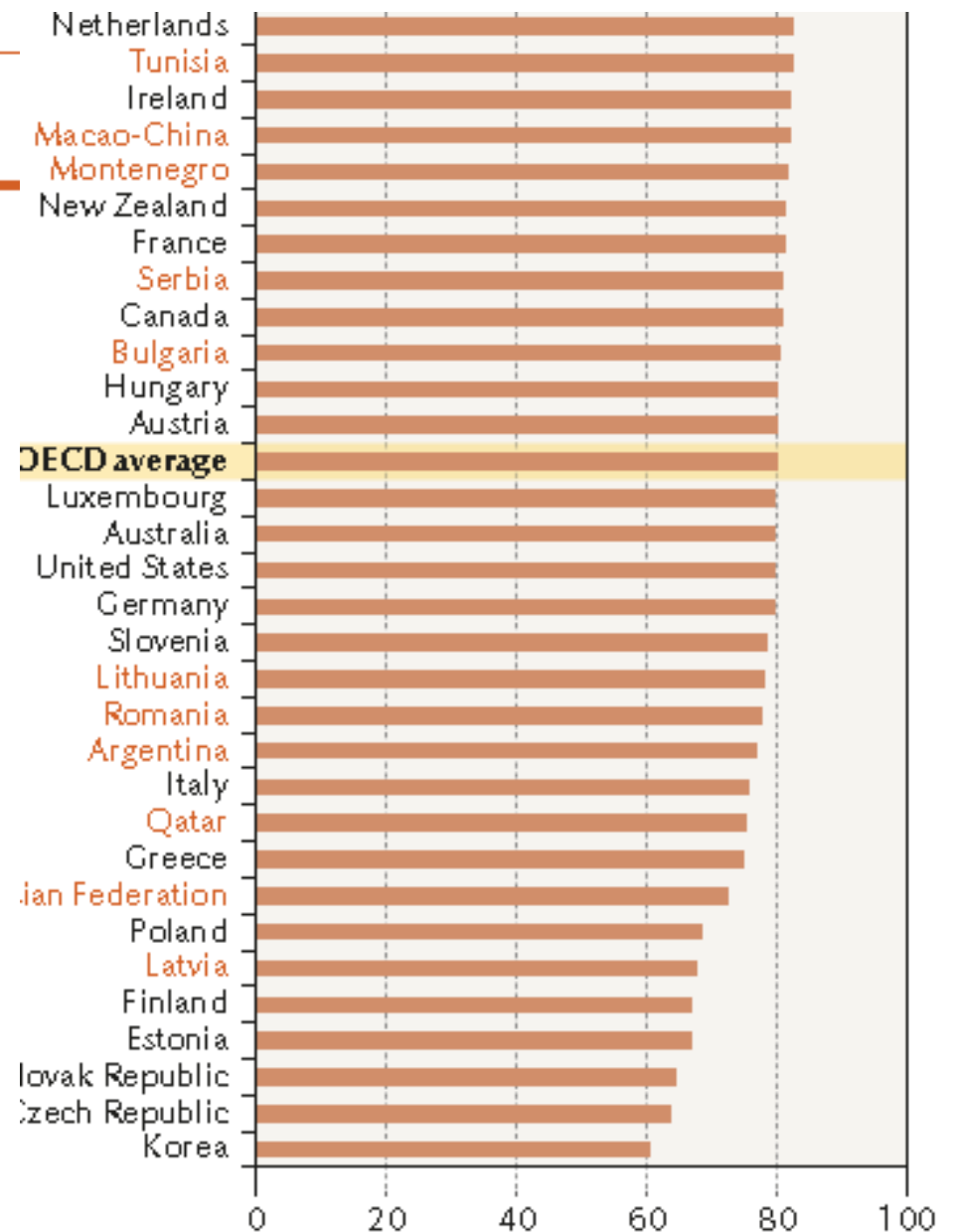
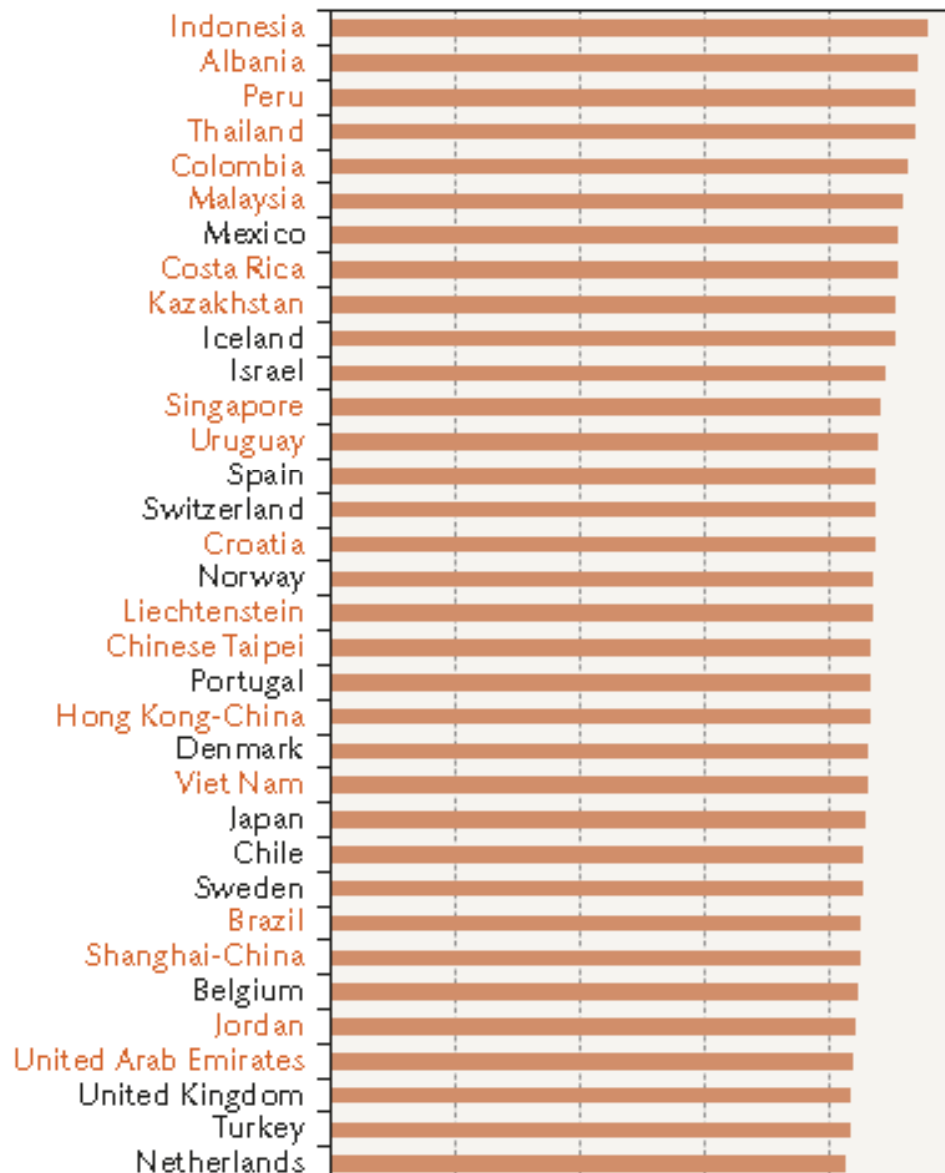
Indonesia: Mean PISA scores for 2000 - 2009 for mathematics, science and reading



PISA 2012 results



Percentage of students who reported being happy at school



Countries and economies are ranked in descending order of the percentage of students who agreed or strongly agreed with the statement "I feel happy at school".

Source: OECD, PISA 2012 Database; Figure III.1.2.

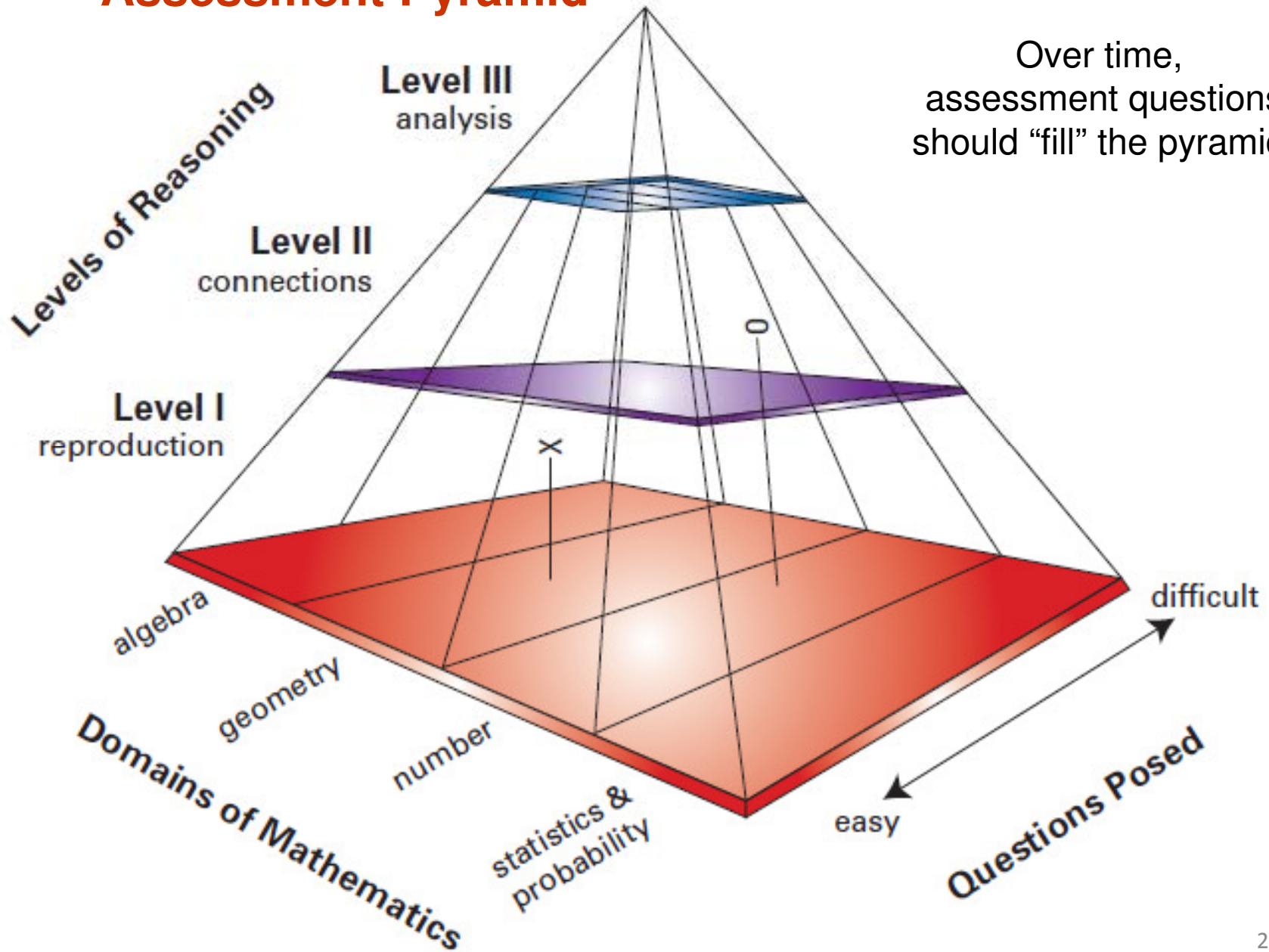
The role of assessment?

Why do we assess?

- To see where the students are
- To see what students know/can do
- To show students where they are
- To motivate students by giving properly feedback
- Where to start
- To reflect on previous teaching: what to do next.
- For a grade



Assessment Pyramid



The Levels of Competencies

- 1. Reproduction, procedures, concepts and definitions**
- 2. Making connections, integration and problem solving**
- 3. Mathematizing, mathematical thinking and reasoning, generalizing and insight**

Example of Assessment Problems in Indonesian Contexts

Design your own context problems

- Working in group
- Use Singapore context
- Use the three levels of goal (see Pyramid)
- Present your works
- Discussion

THANK YOU

zulkardi@yahoo.com

ratu.ilma@yahoo.com

www.p4mri.net;