

The 50th Annual General Assembly of the International Association for
the Evaluation of Educational Achievement (IEA)

Dissemination of TIMSS 2007 as a trend study - Japanese Experiences -

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Outline of topics

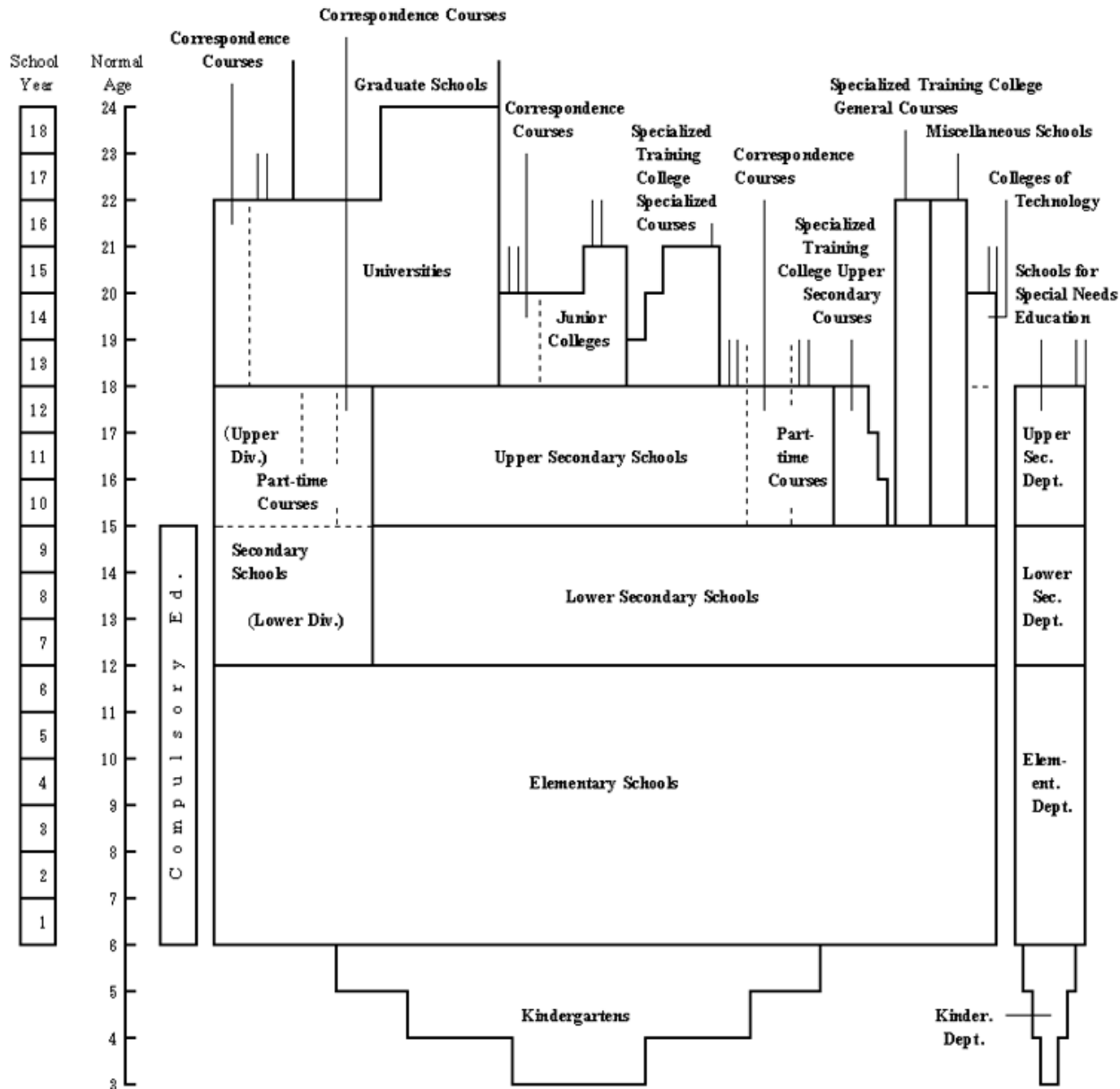


1. An overview – Japan and IEA/TIMSS
 - * Participation in TIMSS since its very beginning
2. How the results of TIMSS2007 were reported in Japan
 - * Which key features of TIMSS2007 did we focus on
3. How we have interpreted the performance of Japanese students in major assessments
 - * Comprehensive analysis of Japanese students' performance using the results of major surveys
4. IEA/TIMSS for Japan
 - * Collaboration with other assessments

1. An overview – Japan and IEA/TIMSS



School System in Japan



- National Institute for Educational Policy Research (NIER) joined IEA in 1961 as a member institute in Japan.
- Japan has participated in all the math and science studies conducted by IEA, including.....
 - * First International Mathematics Study (FIMS), 1964
 - * First International Science Study (FISS), 1970
 - * Second International Mathematics Study (SIMS), 1981
 - * Second International Science Study (SISS), 1983
 - * Third International Mathematics and Science Study (TIMSS), 1995
 - * Third International Mathematics and Science Study (TIMSS-R), 1999
 - * Trends in International Mathematics and Science Study (TIMSS2003)
 - * Trends in International Mathematics and Science Study (TIMSS2007)

Trends of Japanese Students' Performance **-Mathematics-**

	4 th grade (elementary school)	8 th grade (lower secondary school)
First International Math Study(FIMS) 1964	---	2 nd place among 12 countries
Second International Math Study (SIMS) 1981	---	1 st place among 20 countries
Third International Math and Science Study(TIMSS) 1995	3 rd place among 26 countries	3 rd place among 41 countries
TIMSS-R 1999	---	5 th place among 38 countries
TIMSS 2003	3 rd place among 25 countries	5 th place among 46 countries
TIMSS 2007	4 th place among 36 countries	5 th place among 48 countries

Trends of Japanese Students' Performance -Science-

	4 th grade (elementary school)	8 th grade (lower secondary school)
First International Science Study (FISS) 1970	1 st place among 16 countries	1 st place among 18 countries
Second International Science Study (SISS) 1983	1 st place among 19 countries	2 nd place among 26 countries
Third International Math and Science Study(TIMSS) 1995	2 nd place among 26 countries	3 rd place among 41 countries
TIMSS-R 1999	----	4 th place among 38 countries
TIMSS 2003	3 rd place among 25 countries	6 th place among 46 countries
TIMSS 2007	4 th place among 36 countries	3 rd place among 48 countries

2. How the results of TIMSS 2007 were reported in Japan



- On 2 December 2008, the Ministry of Education, Culture, Sports and Science and Technology (MEXT) held a closed press conference for releasing the results of TIMSS2007 in Japan.
- At the press conference, MEXT reported major findings: Japanese students' performance, their attitude to learning and learning environment.
- Under the supervision of the MEXT press club, the reporters confidentially prepared their articles for newspapers as well as TVs to be released on 10 December 2008 after the embargo lifted.

A Summary of the results which MEXT reported to the media ...

- National Institute for Educational Policy Research (NIER) provided the data of TIMSS2007 to MEXT and supported MEXT's arrangement for the national dissemination of the results. A brief summary of the results is available on the homepages of MEXT as well as NIER.....but they are in Japanese only!!

国際数学・理科教育動向調査(TIMSS2007)のポイント

【調査概要】

- 児童生徒の算数・数学、理科の到達度を国際的な尺度によって測定し、児童生徒の学習環境等との関係を明らかにする。
- 国際教育到達度評価学会(IEA)が、日本では小学4年生、中学2年を対象に2007年3月に実施。

【結果概要】

- 平均得点はすべて前回以上。
- 前回調査から調査参加国が増加した(小:25→36カ国)が、国際的に見て上位を維持。

【教科別の結果】(平均得点:全生徒の平均得点を500点、全生徒の3分の2が400点から600点に入るように標準化した各国の得点)

	2007年調査結果(36カ国)	前回(2003年)の調査結果(25カ国)
○小学校		
算数	568点 (4位)	565点 (3位)
理科	548点 (4位) 3位の香港と有意差なし	543点 (3位)
○中学校		
数学	570点 (5位) 4位の香港と有意差なし	570点 (5位)
理科	554点 (3位) 2位の台湾と有意差なし	552点 (6位)

(※ただし、2007年調査結果はいずれの教科も平均得点はすべて前回以上であるが、統計上の誤差を考慮すると前回と同程度となる。)

【わが国の児童生徒の特徴】

算数・数学、理科に対する意識等については、

- ・ 勉強が楽しいと思う割合は、前回調査と比べ、小学生では増加傾向が見られ、特に理科で国際平均を上回ったが、中学生は国際的に見て数学・理科ともに依然低い。
- ・ 希望の職業に就くために良い成績を取ると思う中学生は、国際的に見て依然として少ないが、前回調査と比べて数学・理科ともに増加傾向。

学校外での時間の過ごし方については、

- ・ 依然として宿題をする時間が短く、テレビやビデオを見る時間が長く、家の手伝いをする時間が短い。
- ・ 小学生の宿題をする時間は増加傾向。

- TIMSS2007

- * TIMSS has an aim to measure and cross nationally compare math and science achievement of students.
- * The assessment was conducted in March 2007 targeted 4th grade and 8th grade students in Japan.

- Japanese students' results of TIMSS2007

- * Mean scores are higher than TIMSS2003.
- * Japanese students still belong to a top group internationally, even though the number of countries increased since TIMSS2003.

● Mean scores of Japanese students by grade and subject

*4 th grade students	TIMSS2007 (36 countries)	TIMSS2003 (25 countries)
Math	568 points (4 th place)	565 points (3 rd place)
Science	548 points (4 th place)	543 points (3 rd place)
*8 th grade students	TIMSS2007 (48 countries)	TIMSS2003 (46 countries)
Math	570 points (5 th place)	570 points (5 th place)
Science	554 points (3 rd place)	552 points (6 th place)

● Key features of Japanese students

- * Their attitudes toward Math and Science.....
 - a. 4th grade students who reported “I enjoy learning math/science” are increasing, and especially above the international average in the case of science.
 - b. On the other hand, 8th grade students who reported “I enjoy learning math/science” are still few.
 - c. 8th grade students who reported “I need to do well in science to get the job I want” are few, but the percentage of those is slightly increasing compared to TIMSS2003.

- * How much of their out-of-school time do students spend during a school week.....
 - a. They spend less time on doing their homework, much time on watching TV and video, and less time on doing jobs at home.
 - b. But 4th grade students spend more time on doing homework than before.

What did the Japanese media say about
the results of TIMSS2007

- On 10 December 2007, the media reported like this:
“2nd grade students of lower secondary schools in Japan ranked 3rd in the world by the international test. The Ministry said that the decline of academic ability is ceased. But many Japanese students still do not enjoy learning.”
- The results of TIMSS2007 were not much featured on newspapers and TV, if we compared to TIMSS2003.
- This is because the results were not fascinated by the media. (The TIMSS2003 results were released almost at the same time with the results of PISA2003, so the media naturally gave attention to TIMSS as well as PISA in order to attract a nationwide attention on the issue of academic achievement.)

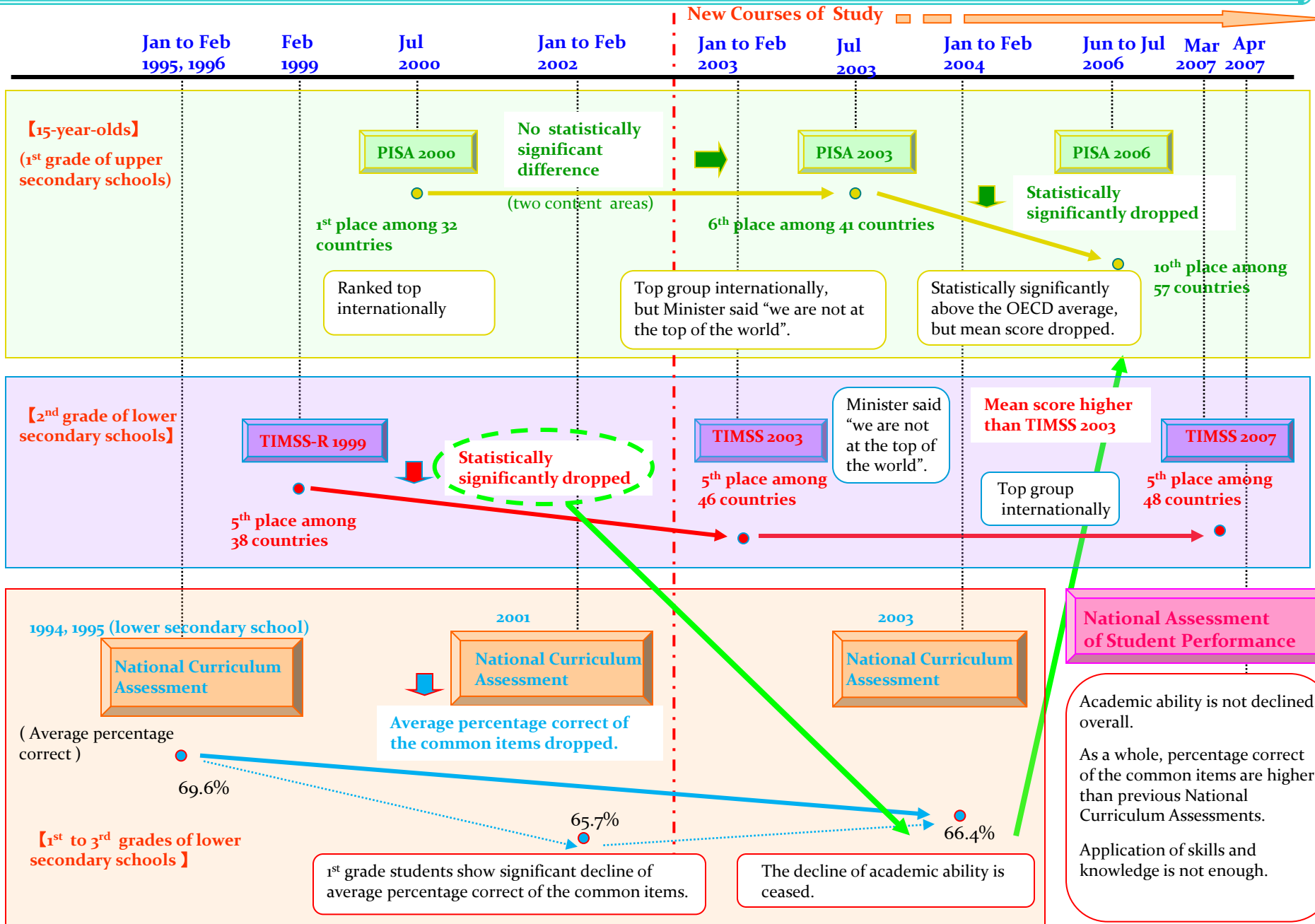
When the results of PISA2003 and TIMSS2003 were released in 2004.....

- December 2004, the results of both PISA2003 and TIMSS2003 acted as a trigger to public debate on the question of student competencies.
- Most of the Japanese newspapers carried headlines on the lines of “We knew it: Decline of Achievement”, and many focused on individual country rankings as if they were medal rankings in the Olympic Games.
- The Minister at that time was not satisfied with the results of PISA2003 and decided to launch a new National Assessment of Student Performance as a census survey.

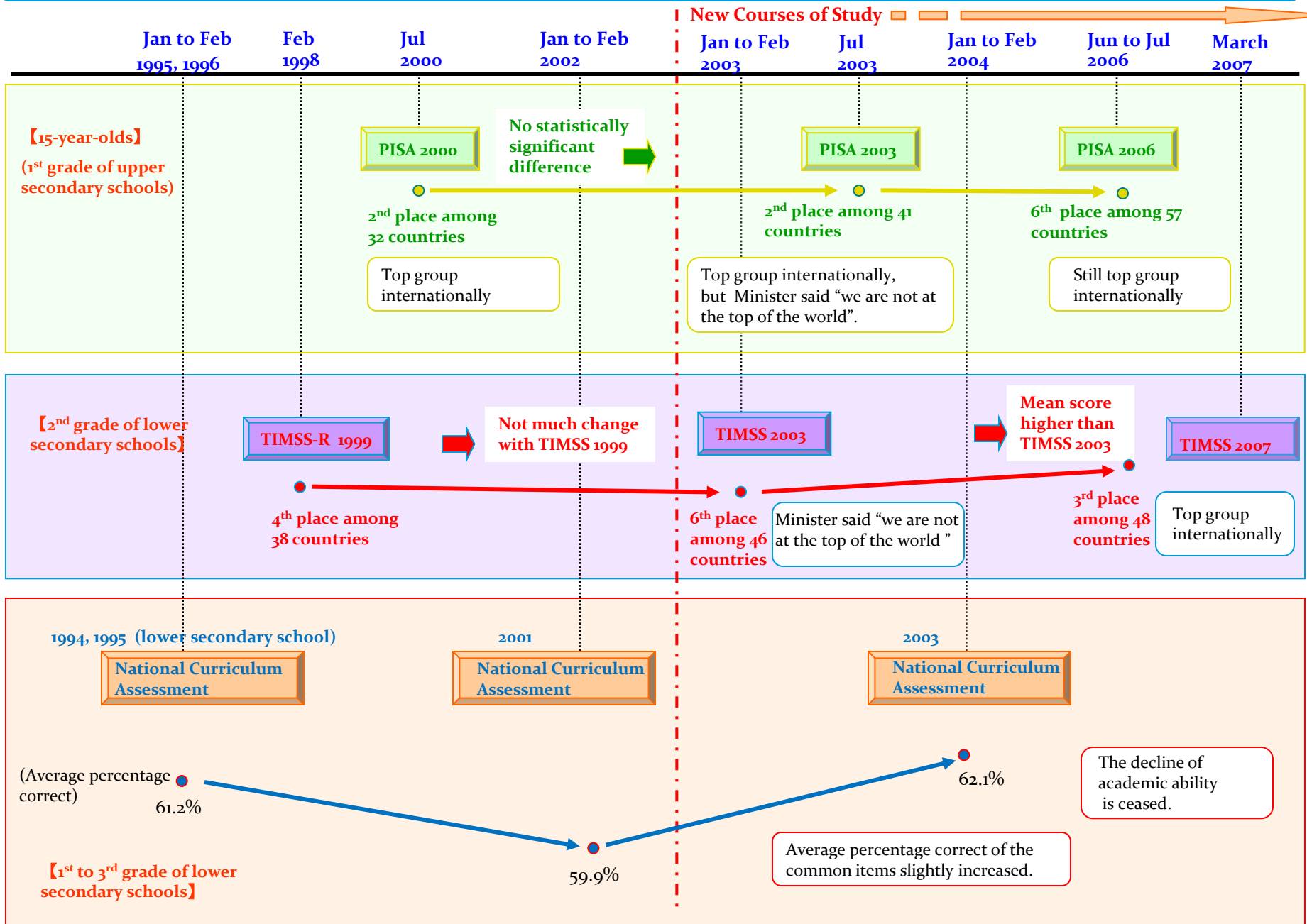
3. How we have interpreted the performance of Japanese students in major assessments



Mathematics performance of Japanese Students : From the results of major assessments



Science performance of Japanese students : From the results of major assessments



4. IEA/TIMSS for Japan



- Educational stakeholders such as teachers, parents and policy makers have now recognized that they need more evidence to make Japanese education better.
- IEA studies have made important contributions to Japanese education, especially for curriculum reform.
- PISA is now given more attention by the Japanese people as it provides new insights into educational reform.
- TIMSS and PISA can play a pivotal role in improving education not only in Japan but also in the world, if they can complement each other their strengths and weaknesses.

Thank you !