

# Results of International Student Assessment Studies Which Turkey Must Consider

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# Studies Participated by Turkey

- 3<sup>rd</sup> Trends in International Mathematics and Science Study (TIMSS 1999)
- Progress in International Reading Literacy Study (PIRLS 2001)
- Program for International Student Assessment (PISA 2003)

# What are the objectives of international studies?

- These are studies that are designed to help researchers, preparers of curricula and educational policy-makers to provide a basis for a better understanding of the functioning of their own educational systems in assessing and restructuring the educational policies of their countries.

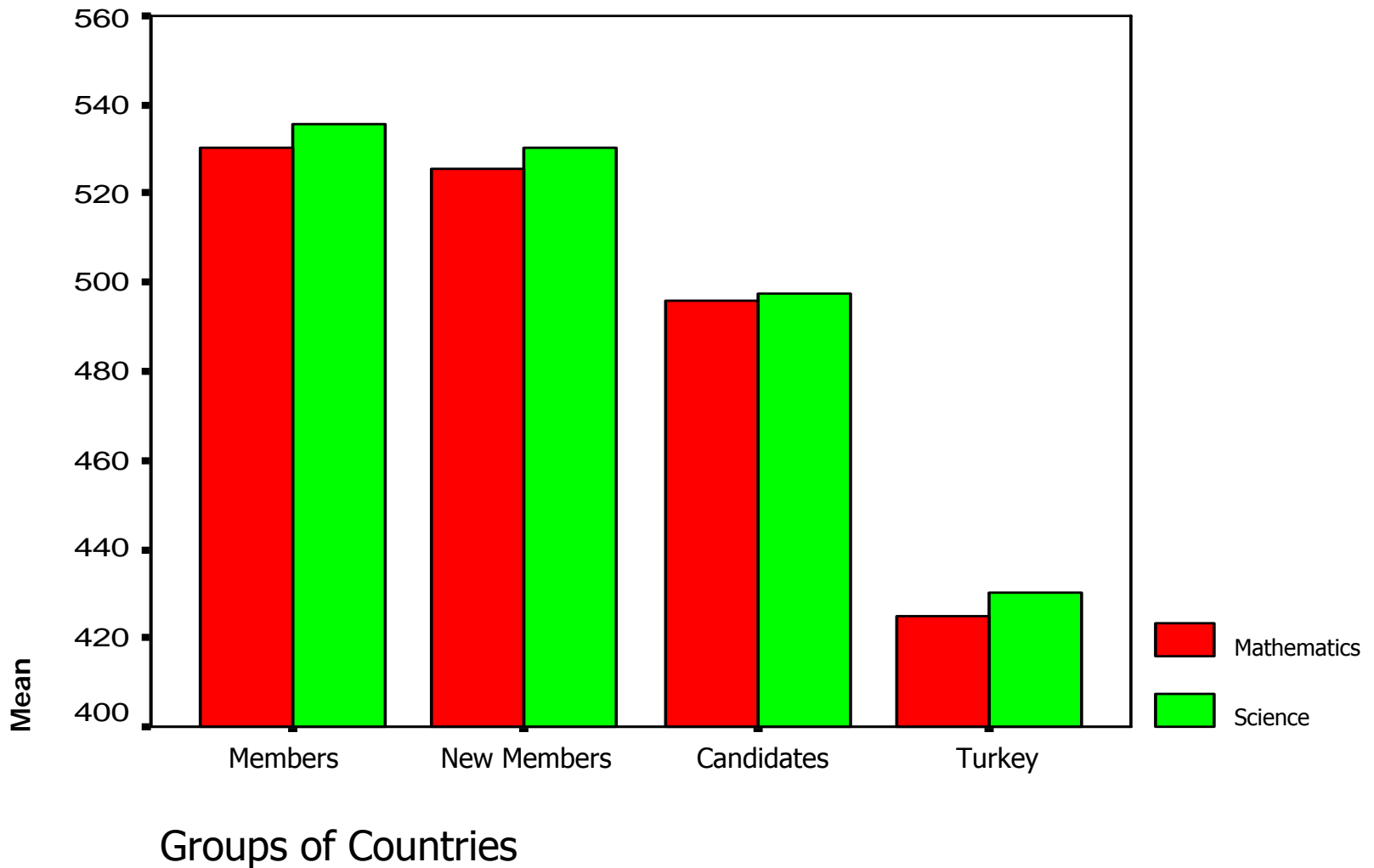
# Aspects considered in the assessment of results

- (1) Findings about student achievement levels
- (2) Findings about teaching methodologies and techniques
- (3) Findings about teacher attitudes
- (4) Findings about the perceptual characteristics of students

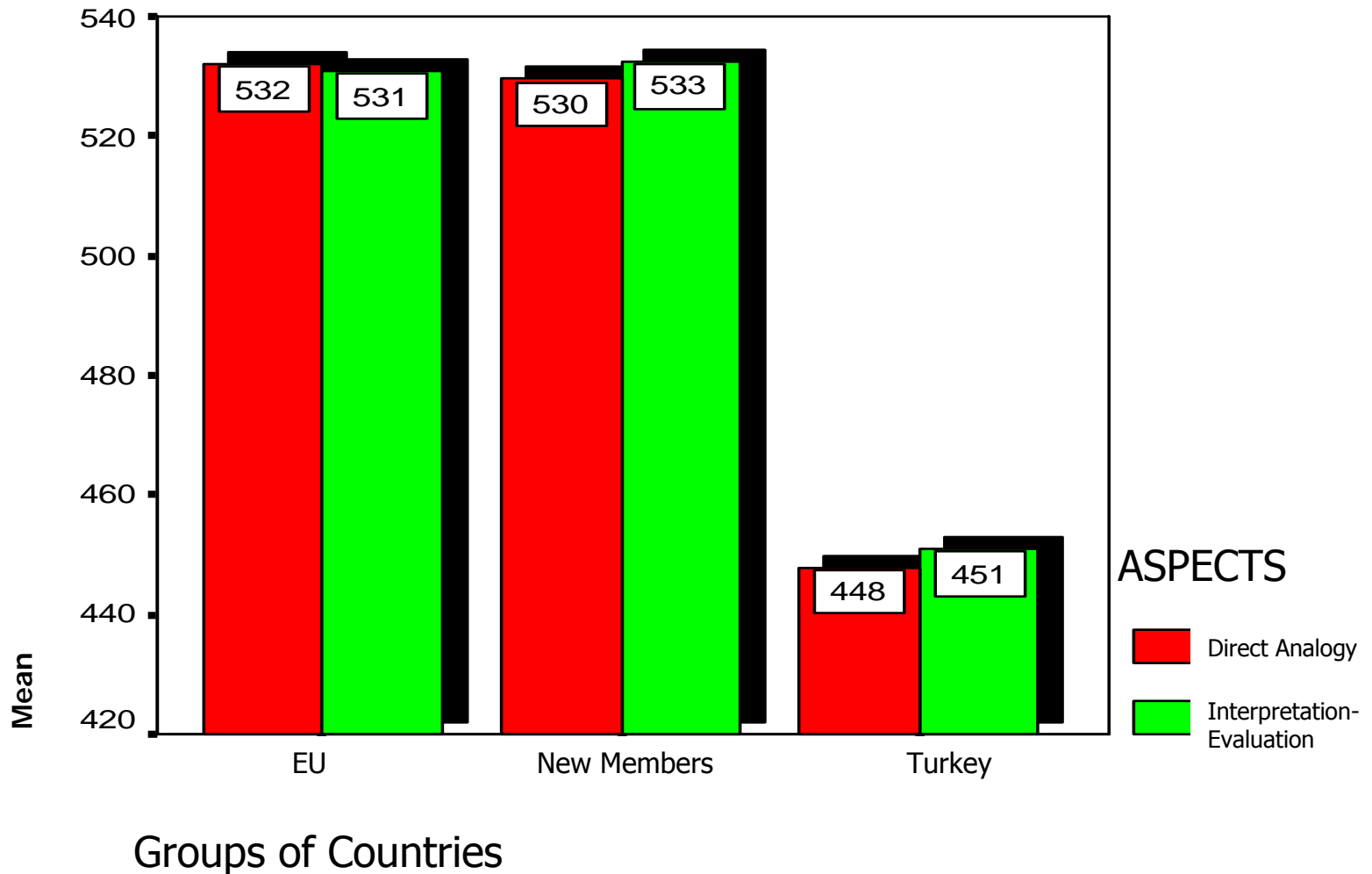
# 1. Findings about student achievement levels

- The achievement level of Turkish students is lower than the levels of EU states.

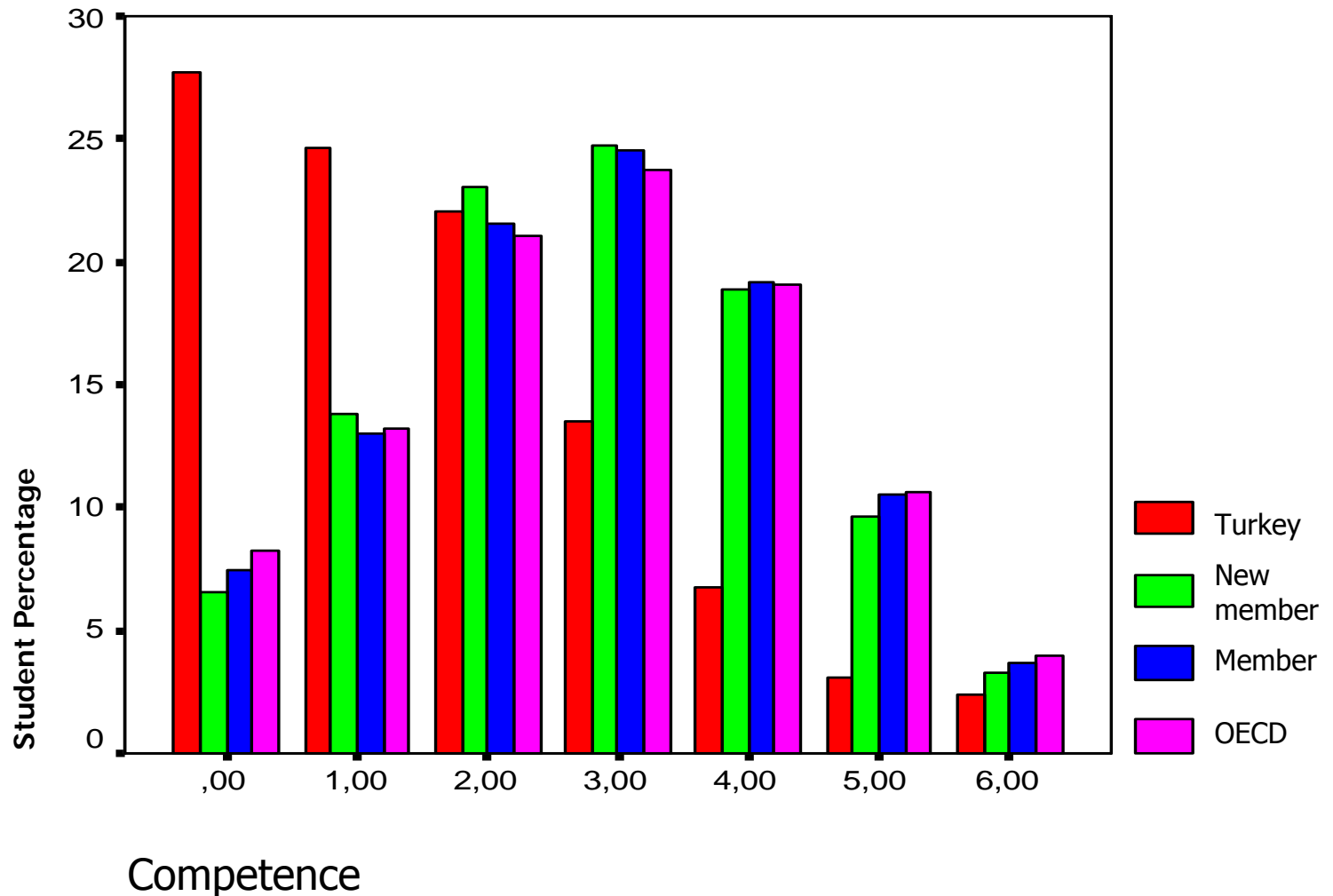
# TIMSS



# PIRLS



# *Comparison of PISA Competence Levels*



# *Differences between Turkey and EU*

## Turkish Students have;

- Simple definition,
- Picking relevant information from a single source,
- Using a single illustrational situation,
- Using algorithms and formulae,
- Direct analogy, skills.

## Students from EU and OECD States have;

- Consecutive thinking,
- Making transactions,
- Problem solving,
- Combining illustrations based on different sources,
- Reporting interpretations and results,
- Communication through mathematical language, skills.

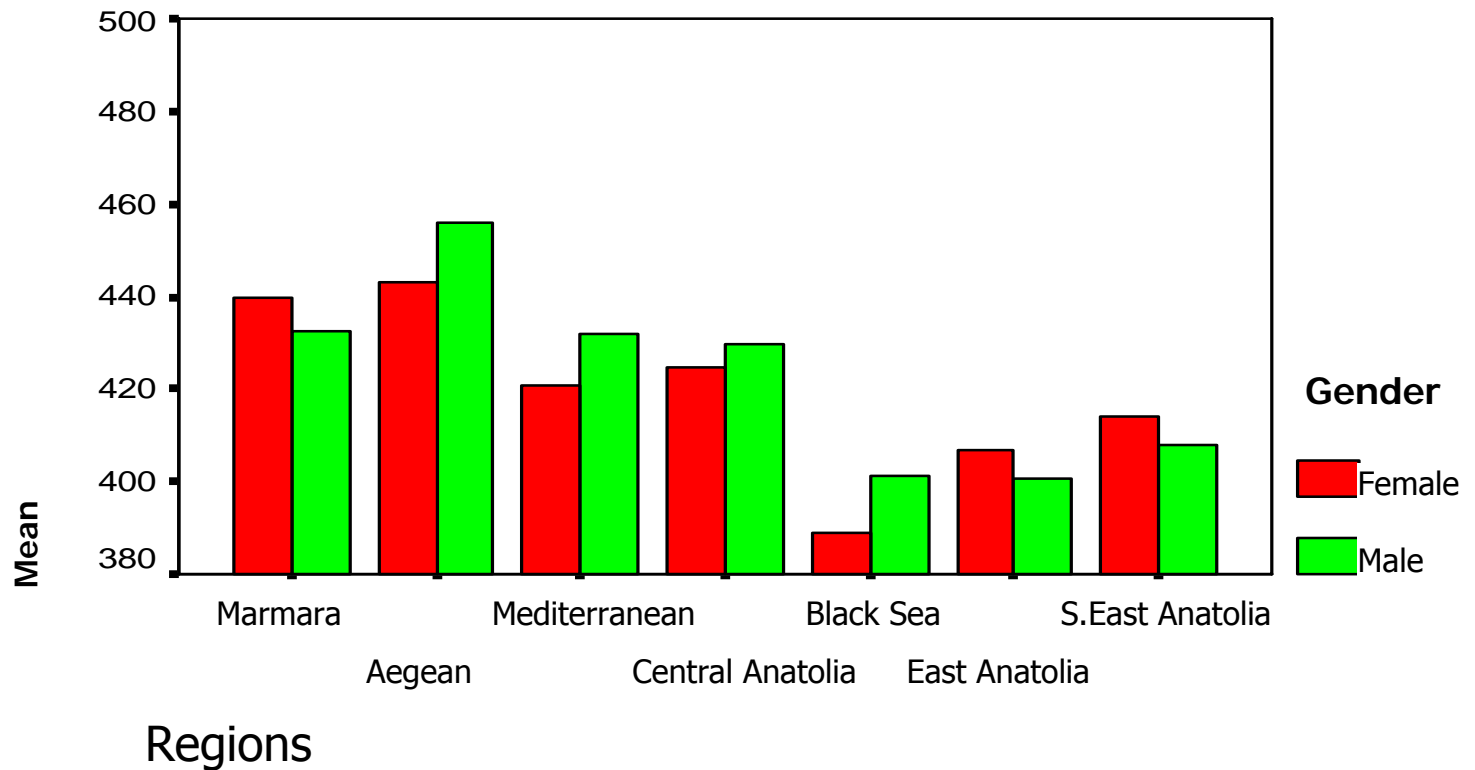
# 1. Findings about Student Achievement

- Regional differences are not significant.

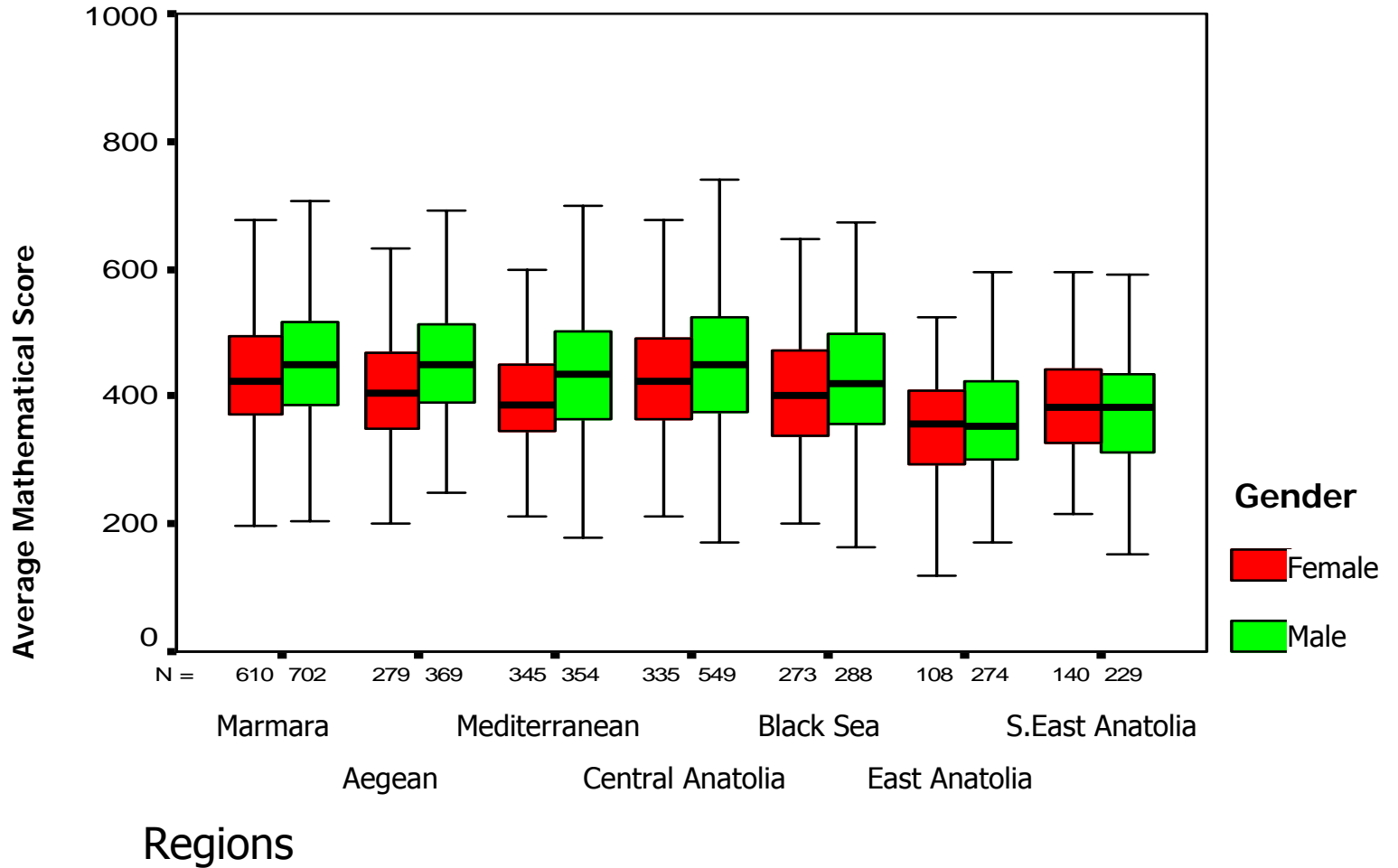
# TIMSS

*By Regions and Genders*

## TIMMS Mathematics



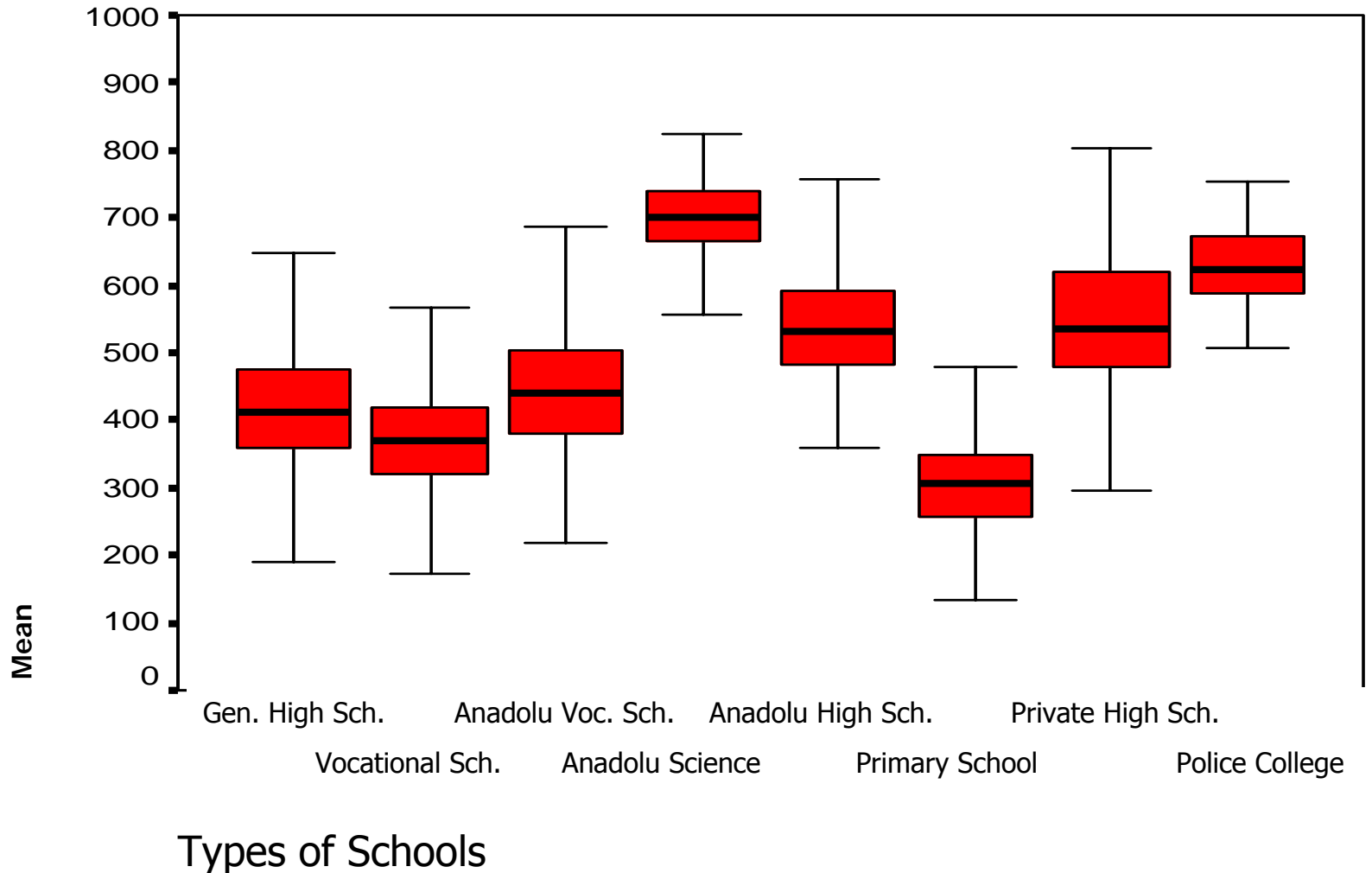
# PISA



# 1. Findings About Student Achievement

- Among the countries that have participated in PISA-2003, Turkey is the country that has the highest variances among its schools. The variance of performance among schools is twice as much as the average variance among schools as reported for OECD states.

# *PISA Mathematics*



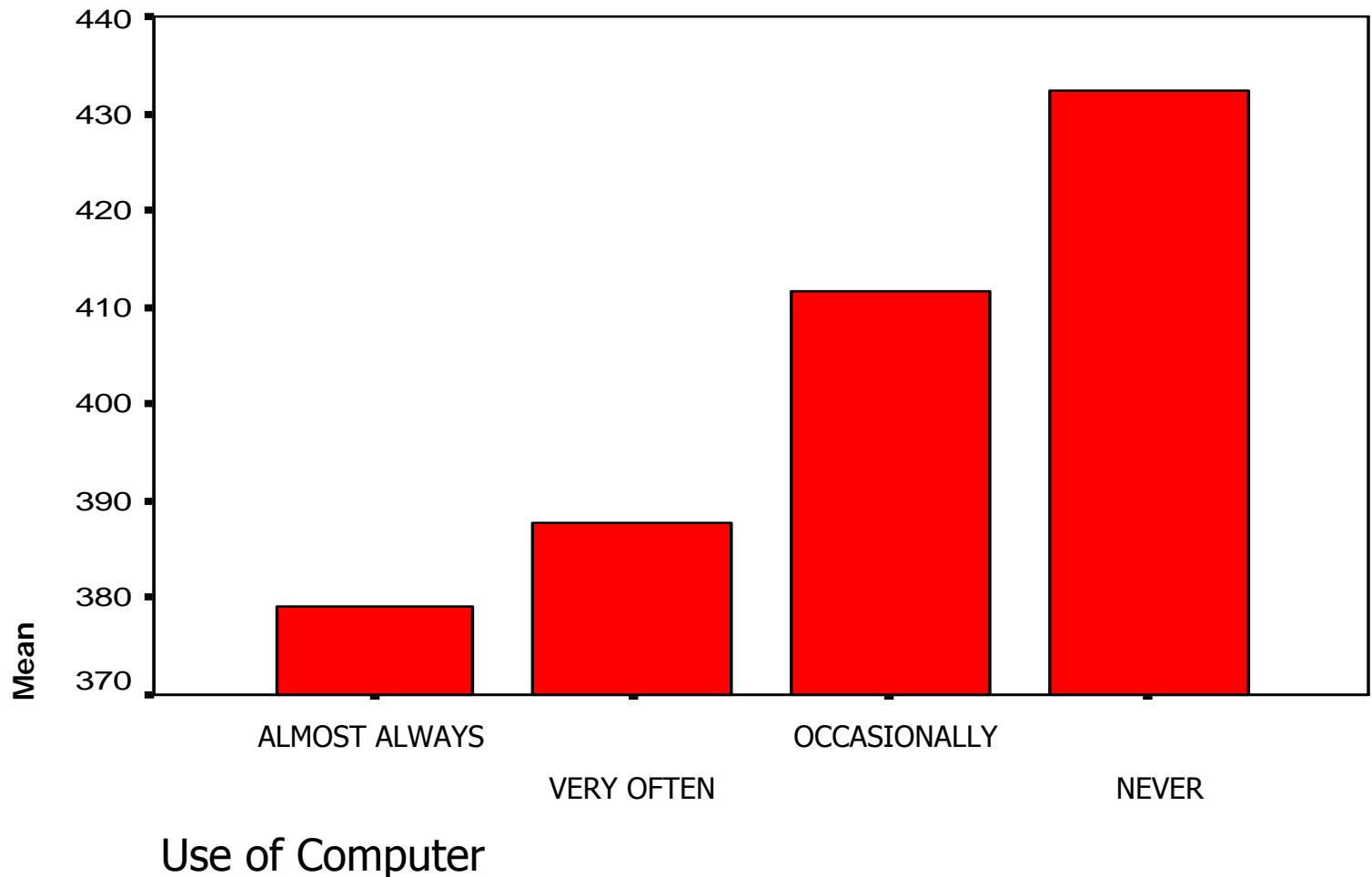
## 2. Findings about teaching methodologies & techniques

- Teaching through reciting in the class.
- Exercising.
- Studying on study notes.
- Helping students understand.
- Group work or couple work in the class.
- Instruct students for non-school project assignments.
- Instruct students to recite topics.

# *Use of Computer*

- The use of computers in science, mathematics and Turkish language classes does not contribute to the development of basic skills and high-level thinking processes for these courses.

# *TIMSS Frequency of Computer Usage*



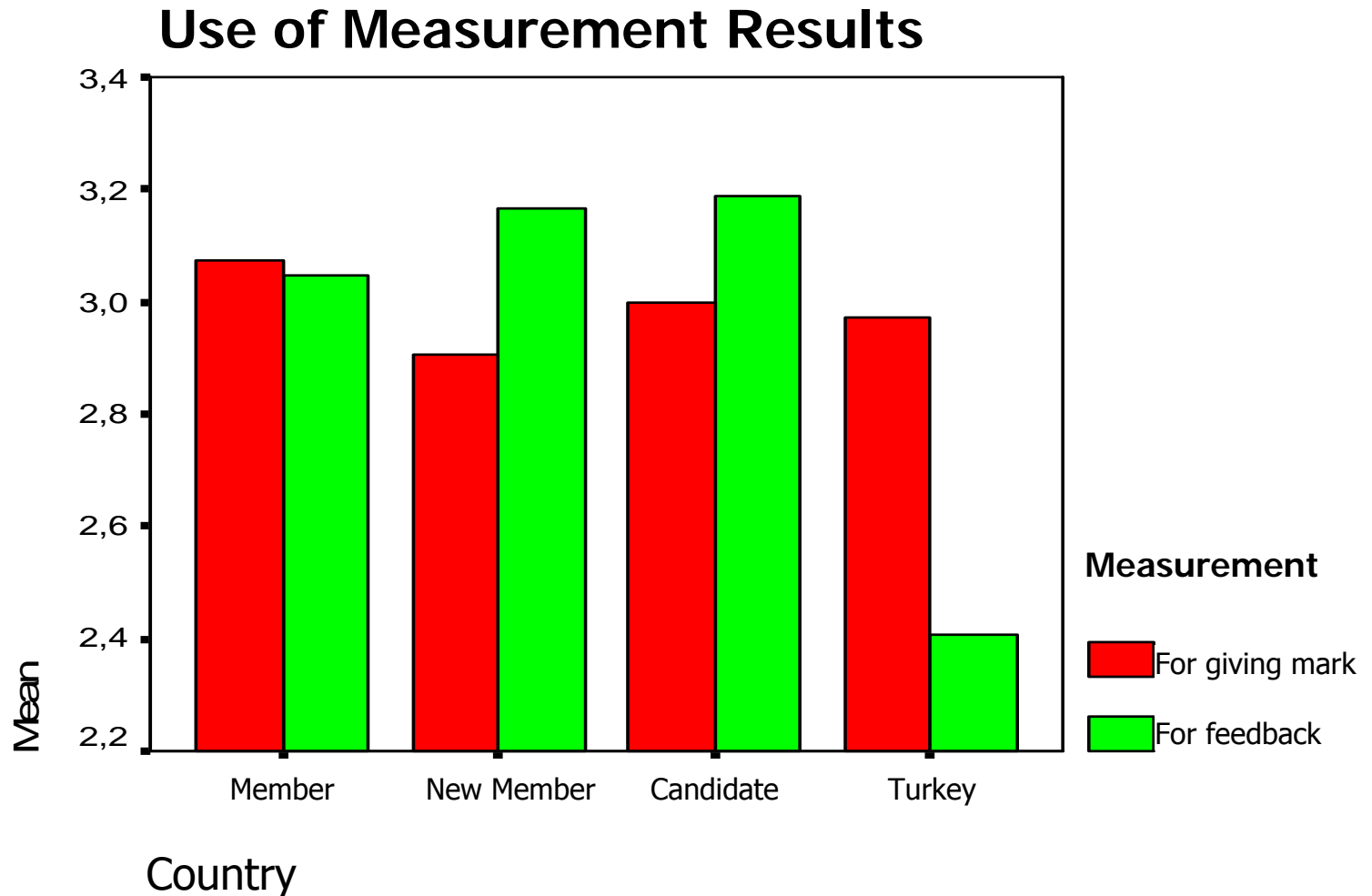
### 3. Findings about perceptual characteristics of students

- I am not very good at mathematics.  
Turkey 59%    OECD 42%
- I get nervous when I do my mathematics assignments.  
Turkey 50%    OECD 29%
- I feel desperate when I solve mathematical questions.  
Turkey 46%    OECD 29%

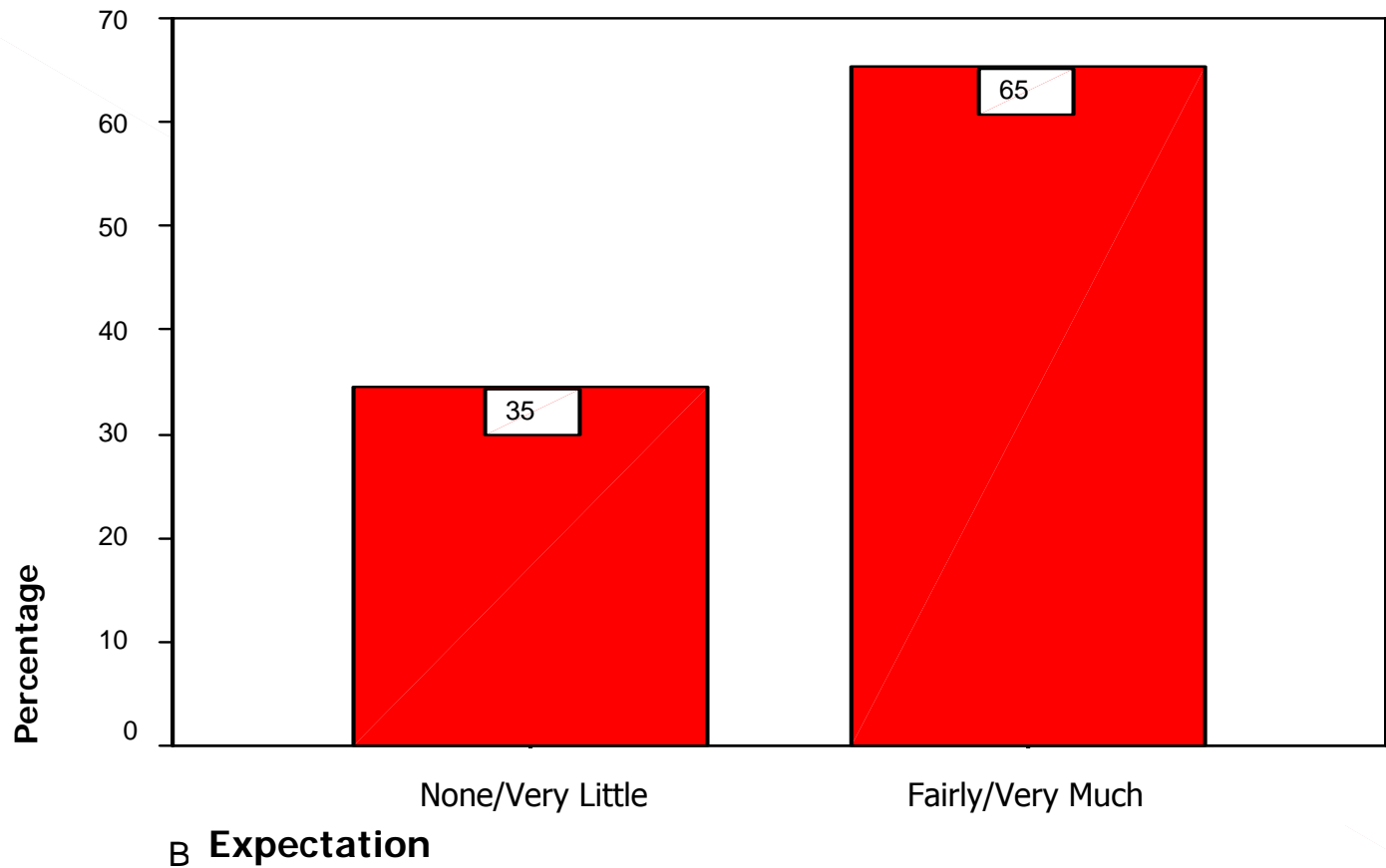
## 4. Findings about teacher attitudes

- The way in which teachers use in-class assessment results, their expectations from students, and the way in which they motivate their children to use all their capacity are different from their counterparts in the EU states.

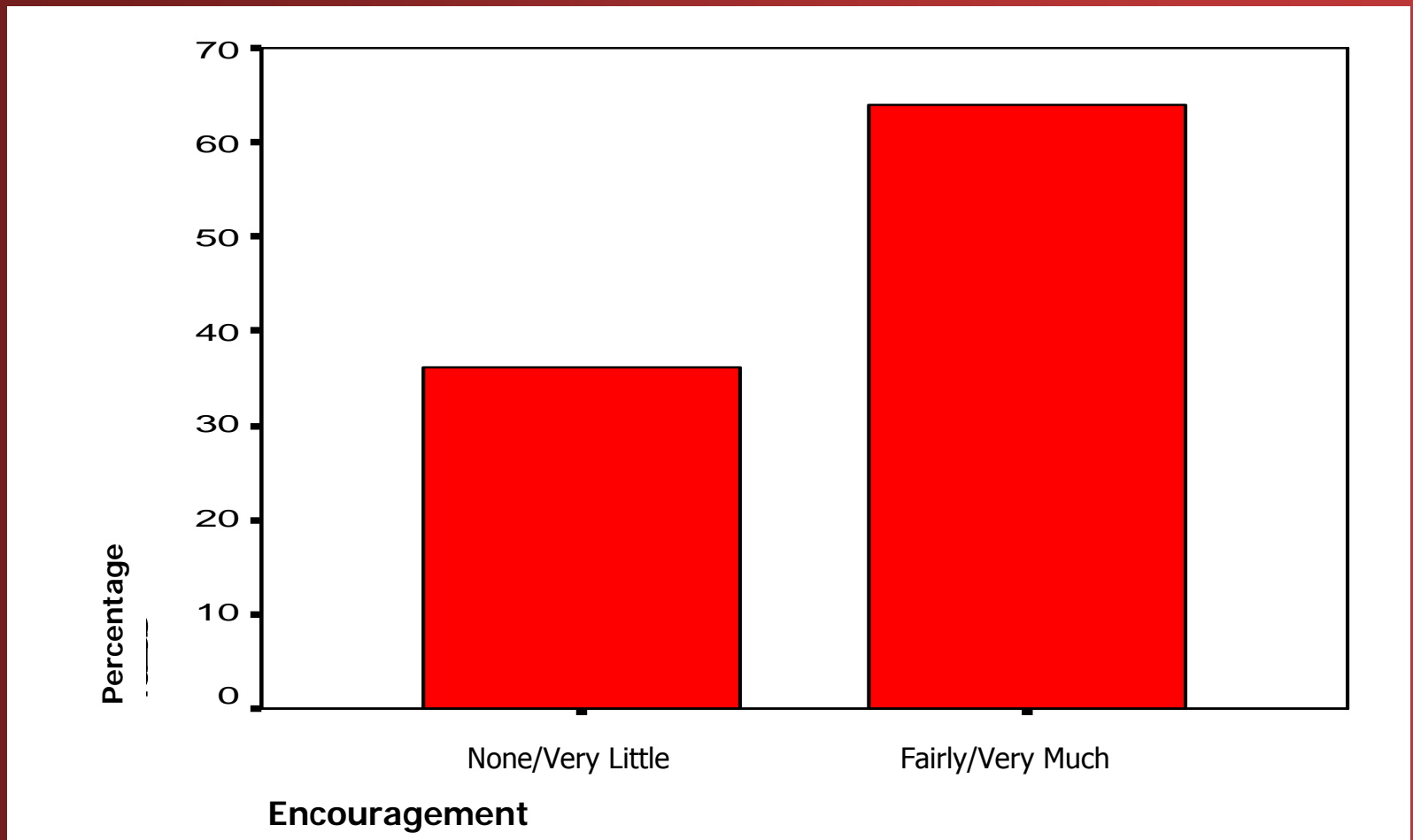
# *Use of In-Class Assessment Results - TIMSS*



*To what extent is student learning affected?  
Teachers' low expectation from students.  
(OECD 22%)*



*To what extent is student learning affected?  
Encouragement of students to use all their  
capacity. (OECD 23%)*



# Conclusion

- Lack of basic skills,
- Different schools types and different achievement levels,
- Problems in student-focused activities,
- Problems in using computers in classes to ensure conceptual development,
- Students have low perceptual levels on achievements in science and mathematics,
- Teachers have low expectations from teachers,
- Problem in using assessment activities for learning purposes,

# References

- Factors affecting the achievement levels of Turkish students in the 3<sup>rd</sup> Trends in International Mathematics and Science Study. *Eğitim Bilimleri ve Uygulama*. 2, 3, page 3-14
- A re-analysis of the 1999 mathematics assessment data for the Turkish students. *Studies in Educational Evaluation*. 30, 1 pp. 87-104
- TIMSS & PIRLS
- <http://www.timss.org>
- <http://pirls.bc.edu>
- PISA
- [www.oecd.org](http://www.oecd.org)   [www.pisa.oecd.org](http://www.pisa.oecd.org)