



# STANDARDIZED ASSESSMENTS AND THE TEACHING AND LEARNING OF MATHEMATICS: SOME FACTS AND PROPOSALS

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**Raquel Mallavibarrena (RSME)**

# SPANISH SITUATION

- International studies of evaluation: PISA, TALIS, TIMSS, TEDS-M  
(<http://www.mecd.gob.es/inee/publicaciones/estudios-internacionales.html> )
- General evaluations of diagnosis, national and regional level.
- Personal evaluation of students: access to university
- With the new law we will have three exams: 3rd year, at the end of the compulsory period and at the end of the whole secondary school (in second and third one: non passing=no graduation)



# BIG IMPACT OF THE RESULTS IN THE MEDIA

- “España "se estanca" y sigue por debajo de la media de OCDE en Matemáticas, Lectura y Ciencias”
- “En Matemáticas, la puntuación media española se sitúa en los 484 puntos, diez menos que la media de los 34 países de OCDE”
- “España está a la cola de la OCDE en evaluación del profesorado”
- Lots of accusations among politicians
- The global impression for the people is: all is bad concerning education in Spain



# NOT ALL THE EXAMS HAVE THE SAME GOALS

This can create some confusion because there is a lack of reflection about which should be the key points in our educational system: either practical competences, theoretical knowledge, computational skills, what is needed to go to the university,...

Regional evaluations can be influenced by political strategies: public versus private schools, easy exams produce good marks, classification of the schools: good ones and bad ones according the results of the exams...



# PROBLEMS DETECTED IN PISA RESULTS

- Differences among regions with the same educational system: sociological factors...
- Big number of students that have not passed some subjects and belong to a level class not corresponding to their age: how to solve this?
- Small number of students with very good results in PISA exam
- Some regions, considered separately, got results much better than OCDE media
- The type of problems appearing in PISA exams are not so frequent in the everyday class of the students, though a lot of efforts have been done in this direction recently



# PROBLEMS WITH THE DIAGNOSIS EXAMS

- Differences among regions
- In some cases the type of questions does not correspond with the new trends of teaching and learning
- In some regions the results lead to a kind of “ranking” of schools and institutes which is not followed by a deep analysis of the context and circumstances of some places, support measures etc...



# SO MANY EXAMS...IS SOMETHING GOOD?

- Many teachers are confused with so many and different exams. Where are we going with this?
- If your students are going to pass an important exam, either for themselves or for the good name of the school, you devote most part of your teaching to prepare that exam. This has advantages and disadvantages.
- The exams are more and more standardized: the list of topics, the type of questions,...
- If one interesting topic is not in the list, it is very probable that it simply disappears in the teaching in order to leave more time to others that are in the list indeed.
- Some teachers ask themselves: do they not trust in my criterium to put grades and give opinions about my students? Are so many assessments necessary?



# OUR CONTRIBUTION

- The Royal Spanish Mathematical Society has added some reflections on PISA assesment to the long list of papers, seminars, ...about the topic. One of our contributions is <http://www.rsme.es/comis/educ/PISA06-RSME.pdf>
- We are in contact with other mathematical societies and one joint contribution is <http://www.ce-mat.org/uploads/informes/RSME-CEMAT-PISA2009.pdf>



# POSITIVE REACTIONS

- The official curricula of compulsory mathematics education is based on competences and problem resolution
- Many initiatives are developing inside the mathematics community of secondary school: journals, working groups, seminars, web pages, GeoGebra Institutes,...
- Interesting initiatives to stimulate mathematical talent, including voluntary activities and also some specialized types of non compulsory secondary school period



# THERE IS STILL MUCH TO BE DONE

- How to overcome the negative effects of standardized assessments?
- The excessive diversity of the students in many Spanish classrooms makes a good quality teaching and learning almost impossible
- The mathematics preparation of teachers of Primary school should be improved as soon as possible (big problem and big debate)
- Lack of social recognition of teachers and education in general



# EDUCATION LAWS

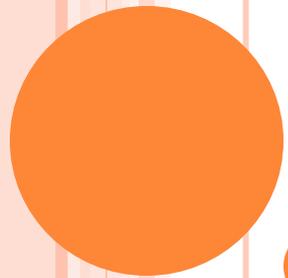
- During the last decades, every government has changed the previous education law.
- This produces a lack of stability and indifference of many teachers, students, families: no change will last much!
- Too much time is devoted to ideological and controversial topics related with education but many essential problems are not solved at all.



# WE NEED REFLECTION AND CONSENSUS

- All mathematical societies offer our reflections and analysis to push the political parties to take into consideration the opinions of teachers, experts and social demands.
- It is very urgent in Spain to clarify ideas about our educational system and avoid the big risk to focus the efforts only in getting better results in the international standardized assessments by “specific preparation of the students to be familiar with the type of questions and problems”





**THANKS!**

**[rmallavi@mat.ucm.es](mailto:rmallavi@mat.ucm.es)**

