

# Uloga psihometrije u razvoju instrumenata za nacionalnu *“procjenu”*

The role of psychometrics in the development of instruments for National Assessment

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now you know

# Main target of National Assessment

...to describe the knowledge, abilities, competencies of students at some point in education on educationally ***relevant narrowly*** defined topics

For example, in the Netherlands with maths the assessment focuses on 22 different domains, and for each domain a different set of items is used.

# Requirements

- Detailed description of topics
- Representative sample of items per topic to 'measure' topic from easy-difficult
- Representative sample of students taking into account relevant background variables

# Central Issue in psychometrics

- Central Issue:
  - Does the score indicate what it is supposed to indicate?
  - Questions about reliability and validity
- Answers are derived through mathematical and statistical theories:

Test theories or Psychometric theories

theories are mathematical and statistical; answers are not!

# Psychometrics

- Science of developing educational and psychological tests and measurements procedures. It is helpful in:
  - Selection of test items
  - Transformation of responses into numerical scores
  - Assessing the quality of these scores
  - Interpretation of these scores
  - Itembanking

# Outcomes of National Assessment

- Overview of aspects (per domain) of educational supply (curricula, time invested, methods used...)
- Breakdown by background variables (age, gender, SES, planned track...)
- Description of ability distributions in (sub)population(s), where ability is related to accurately defined and didactically meaningful units, preferably small.

# Presentation of results

For each topic an ability scale showing:

- Distributions of ability for (sub) populations with detailed description of achievements
- Items ordered by psychometric characteristics to illustrate the ability scale
- Achievements against standards set

# Considerations

- Most important uses of (national) assessment (Popham, 1999):
  - **Educational accountability**
  - **Instructional enhancement**