

*Searching for the EDUCATIONAL EQUITY  
BALANCE in Finland using Finnish Learning-to-  
Learn Scales, FILLS, PISA data, and other  
sources*

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[www.helsinki.fi/cea](http://www.helsinki.fi/cea), [www.pisa2006.helsinki.fi](http://www.pisa2006.helsinki.fi)

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- All schools create their own curricula based on the national core curriculum and lesson hour distribution
- No inspection of schools but mandatory self-evaluation of schools by the municipalities and the schools themselves
- No national examinations or testing during (or in the end of) basic education (grades 1-9)
- Sample-based assessment in key subjects at grade 9 by the National Board of Education with results published only at the system level (school-level results only given to the schools themselves for internal use)
- Pedagogy geared for the teaching of heterogeneous groups with stress on the weaker students
- A basic socio-constructivist view of learning

## **No streaming or ability grouping**

Yet, the choice of first foreign language at grade 3 (and a possible second one at grade 5) can affect class formation in some schools

The same goes for a specific emphasis on music education from grade 1 on and some other “special emphasis” classes (math, science, art) in grades 7-9

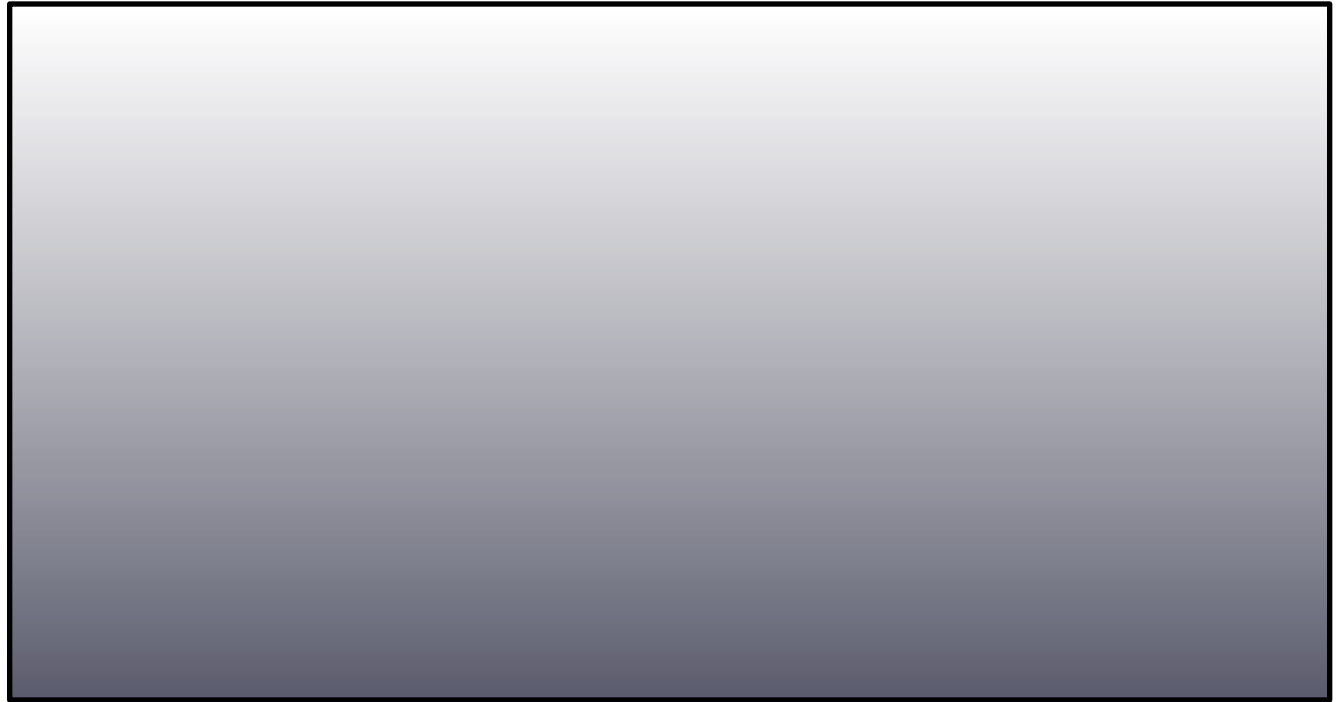
## **Remedial teaching and special education**

**Closely integrated into normal teaching; growing emphasis on inclusion**

Free school meal as a fixed part of the school day

Emphasis on student welfare: health and dental care, student welfare team, school psychologists, career counsellors (grades 7-9)

# Model of Schooling



**COVERAGE:** % of the relevant age cohort  
historical expansion from 1 % to 100 %;  
*how to organise education for ALL*  
*using (comprehensive vs. selective)*  
*models for schooling*

# Model of Schooling

**CONTENT:**

the required level  
of  
the knowlegde  
and competence

Defined via  
curriculum goals  
&  
leaving  
credentials &  
links to further  
education;

*how to tackle  
the variation of  
pupils & to solve  
matching (demands/competence)*

# Model of Schooling

## **CONTENT:**

*how to tackle  
the variation of  
pupils & to solve  
matching*

if the level is fixed to a  $\approx$ high level, say in primary education, does this mean that all should attain this very level?

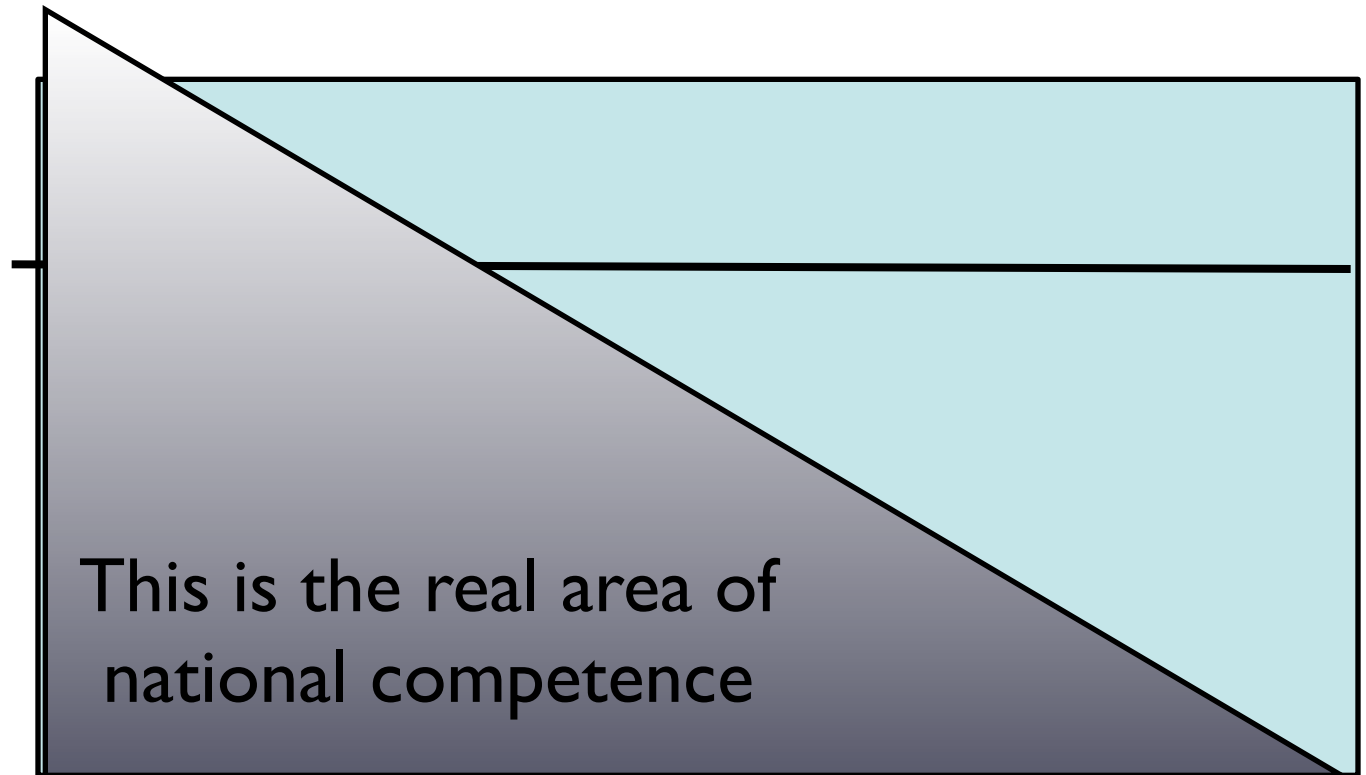
if YES, we have an educational problem,  
if NO, we have a moral problem

**COVERAGE:** *using models for schooling*

# Model of Schooling

## **CONTENT:**

*how to tackle  
the variation of  
pupils & to solve  
matching*



**This is the real area of  
national competence**

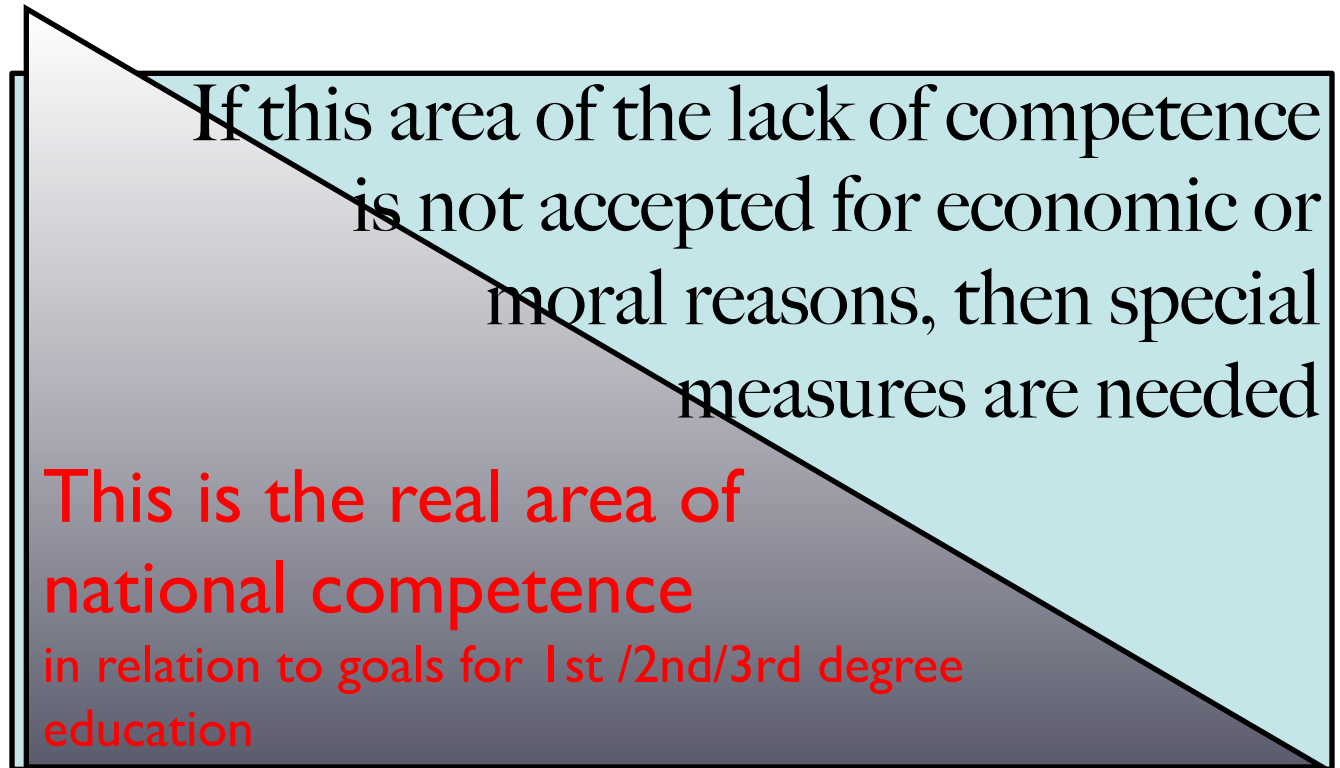
**COVERAGE:** *using models for schooling*

*In this model the pupils are arranged in competence ranks,  
the most able on left, severely handicapped on right*

# Model of Schooling

## **CONTENT:**

*how to tackle  
the variation of  
pupils & to solve  
matching*



**COVERAGE:** *using models for schooling*

*In this model the pupils are arranged in competence ranks, the most able on left, severely handicapped on right*

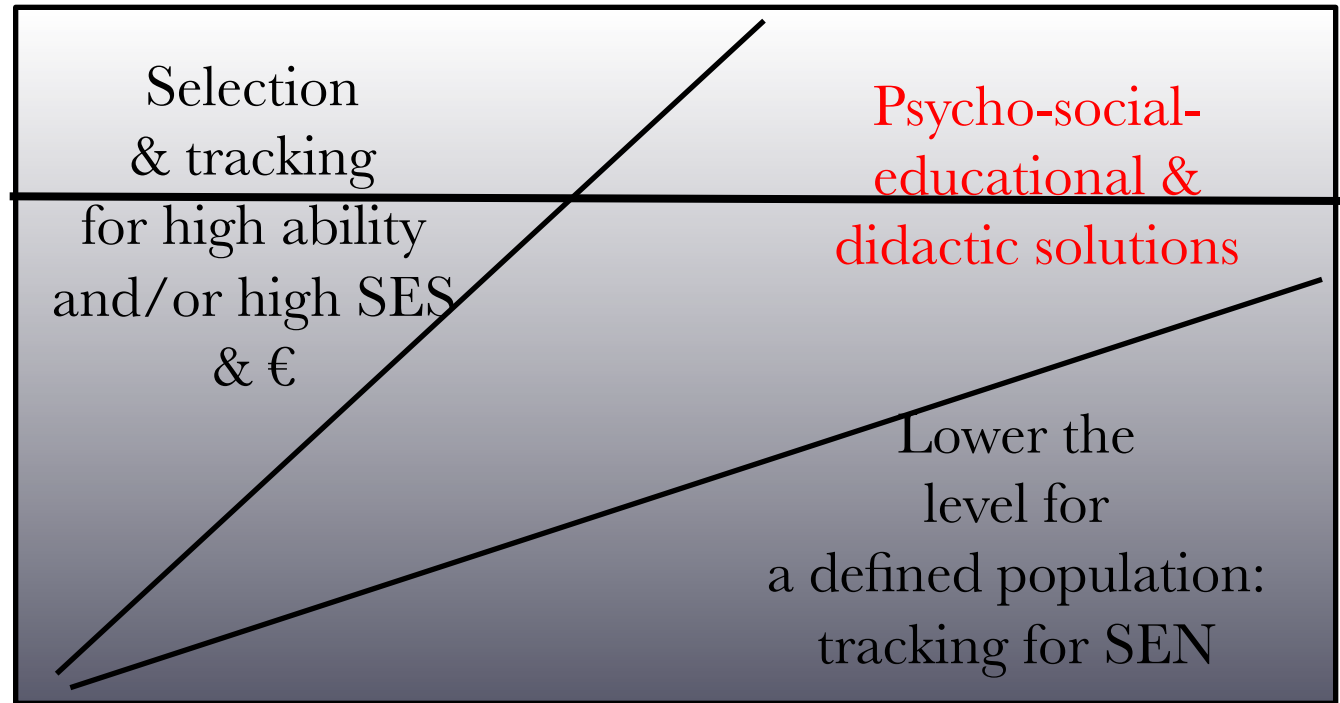


# Model of Schooling

## CONTENT:

*how to tackle  
the variation of  
pupils & to solve  
matching*

*The lines are  
reflection  
“surfaces”*



**COVERAGE:** *using models of schooling*

*In this model the pupils are arranged in competence ranks,  
the most able on left, severely handicapped on right*

# 4 Schools

Cultivates and  
forms thinking  
creating  
*the mastery of thinking*

**Thinkin**

**g**

**School**  
**Content**  
**Schools**



Cultivates  
the humanistic values  
creating  
**the perspective**  
**of**

**Moral**  
**School**

**2 STRUCTURAL SCHOOLS**

**OPEN SCHOOL**

**ADAPTIVE SCHOOL**

Co-operation between  
institutions (school, family,  
protection,  
social work)  
*loosening the borders*

Co-operation within school  
(teachers, special teachers,  
psychologist, ...)  
*redefining the internal borders*

# The Finnish Framework for Learning-to-Learn

- Developed by the Helsinki University Center for Educational Assessment, by commission of National Board of Education
- Two-dimensional framework - "Mastery of Thinking" and "Perspective of Hope"
- Based on several theories of educational and developmental psychology
- Learning to learn = to adapt to novel tasks

# Conceptual issues

Learning-to-Learn, the latest definition:

"The commitment (ability and willingness) to adapt to novel tasks, activating one's *mastery of thinking* and the *perspective of hope* by means of maintaining one's cognitive and affective self-regulation in and of learning action"

# The L<sup>2</sup> Factor: aims for the FILLS

- *The motive for assessing the L2 factor as a part of educational indicators for cross-curricular competencies stems from the need to monitor those educational outcomes, which do not directly result from the national educational aims and measures, but are, however, formed through good educational practice.*

# Finnish Learning to learn scales, FILLS

## COGNITIVE COMPETENCE:

- REASONING SKILLS  
several scales
- TEXT COMPREHENSION  
two scales
- MATHEMATICAL THINKING  
several scales

# Finnish Learning to learn scales, FILLS

## **BELIEFS AND ATTITUDES:**

- LEARNING SUPPORTIVE BELIEFS
- COUNTER PRODUCTIVE (dysfunctional) BELIEFS
- SCHOOL RELATED BELIEFS
- PERSONAL COMPETENCE BELIEFS
- PARENTAL SUPPORT BELIEFS

## EQUITY BALANCE

The explained variance of the criteria outcome, by some educationally relevant context variable, is one way to look on the educational system.

Equity Balance Factors:

***GENDER***

*girls, boys*

***LANGUAGE***

*Finnish, Swedish*

***PARENTAL EDUCATION***

*1st, 2nd, 3rd degree*

***PROVINCE***

*now 5*

***SCHOOL [& CLASS]***



## EQUITY BALANCE

### The Data

*A national sample (5 %) of the Finnish 6th graders, 2003*

<i>Datatype</i>	<i>Schools</i>	<i>Pupils</i>
<i>paper</i>	<i>98</i>	<i>2357</i>
<i>pap+web</i>	<i>32</i>	<i>712</i>
<i>web</i>	<i>66</i>	<i>1260</i>
<i>Together</i>	<i>196</i>	<i>4329</i>

## EQUITY BALANCE

### *Competence*

*reasoning skills,  
text comprehension skills,  
mathematical thinking skills*

<i>factor</i>	<i>%</i>
<b>GENDER</b>	<b>0.4</b>
<b>LANGUAGE</b>	<b>0.2</b>
<b>EDUCATION</b>	<b>6.3</b>
<b>COUNTIES</b>	<b>0.6</b>
<b>SCHOOL</b>	<b>12.0</b>

## EQUITY BALANCE

### *COMPETENCE BELIEFS*

*(e.g. math SC, agency:ability, parents' belief in my competence, ...)*

<i>factor</i>	<i>%</i>
<b>GENDER</b>	<b>0.3</b>
<b>LANGUAGE</b>	<b>0.8</b>
<b>EDUCATION</b>	<b>5.6</b>
<b>COUNTIES</b>	<b>0.0</b>
<b>SCHOOL</b>	<b>6.4</b>

## EQUITY BALANCE

### ***LEARNING SUPPORTIVE BELIEFS***

*(e.g. learning orientation, agency:effort, self-assured self, rational self, task-orientation, ...)*

<b>GENDER</b>	<b>0.1</b>
<b>LANGUAGE</b>	<b>0.2</b>
<b>EDUCATION</b>	<b>1.1</b>
<b>COUNTIES</b>	<b>0.2</b>
<b>SCHOOL</b>	<b>7.8</b>

## EQUITY BALANCE

### ***LEARNING DETRIMENTAL BELIEFS***

*(e.g., avoidance orientation, self-handicapping, sloth, means: ability, luck, ...)*

<b>GENDER</b>	<b>0.7</b>
<b>LANGUAGE</b>	<b>0.1</b>
<b>EDUCATION</b>	<b>1.6</b>
<b>COUNTIES</b>	<b>0.2</b>
<b>SCHOOL</b>	<b>5.1</b>

## EQUITY BALANCE

### *SCHOOL RELATED BELIEFS*

*(e.g., teaching and learning is interesting, my class, and my school as a learning environment, ...)*

<b>GENDER</b>	<b>0.4</b>
<b>LANGUAGE</b>	<b>0.1</b>
<b>EDUCATION</b>	<b>0.0</b>
<b>COUNTIES</b>	<b>0.4</b>
<b>SCHOOL</b>	<b>21.2</b>

## EQUITY BALANCE

### *PARENTAL SUPPORT BELIEFS*

*(e.g., parents' experienced relation to schooling, to pupil, to his/her ability and effort, to control of learning, and parental expectations of doing one's best, ...)*

<b>GENDER</b>	<b>0.1</b>
<b>LANGUAGE</b>	<b>0.1</b>
<b>EDUCATION</b>	<b>2.1</b>
<b>COUNTIES</b>	<b>0.1</b>
<b>SCHOOL</b>	<b>4.9</b>

## EQUITY BALANCE

### Gender and Educational Status of the Parents

Using the random component  
of school in analyses

Parents education:

no significant random component for schools in  
any variable

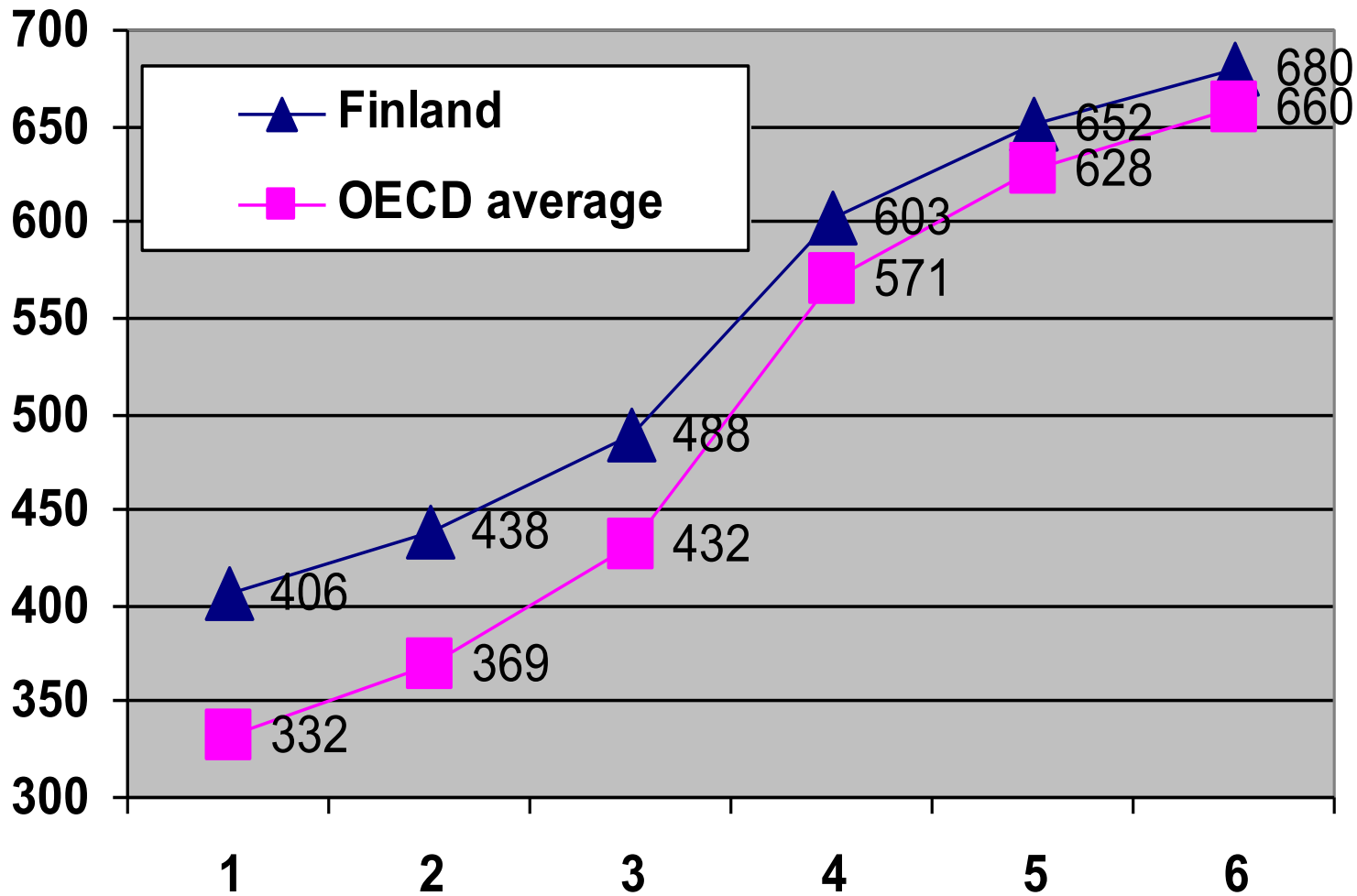
Gender:

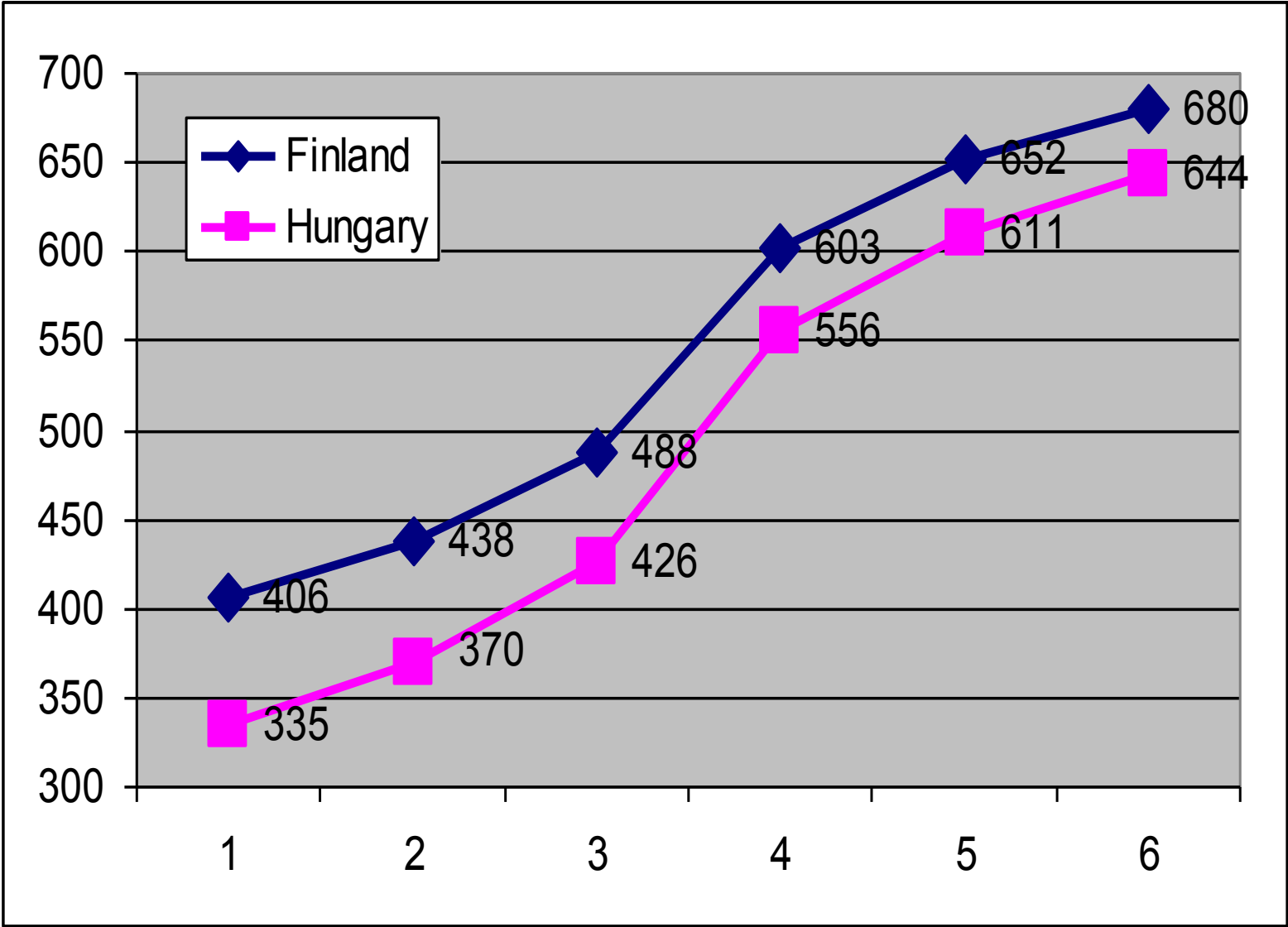
statistically significant component **ONLY** for  
math & experienced school



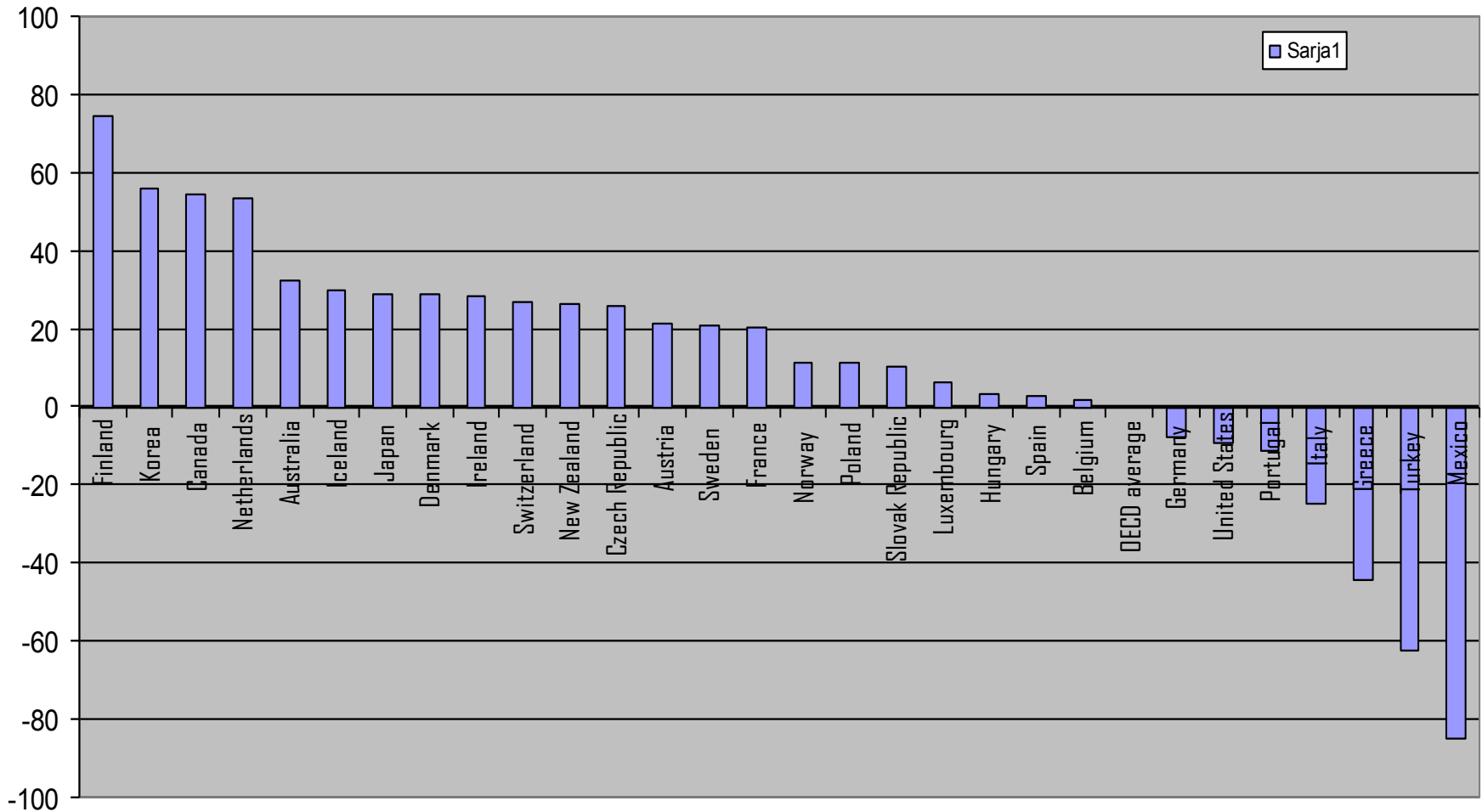
# PISA Data

1. Finland in relation to OECD means in different percentile segments
2. Finland vs Hungary
3. Lowest 5 % (5 percentile)
4. Best 5 % (95 percentile)

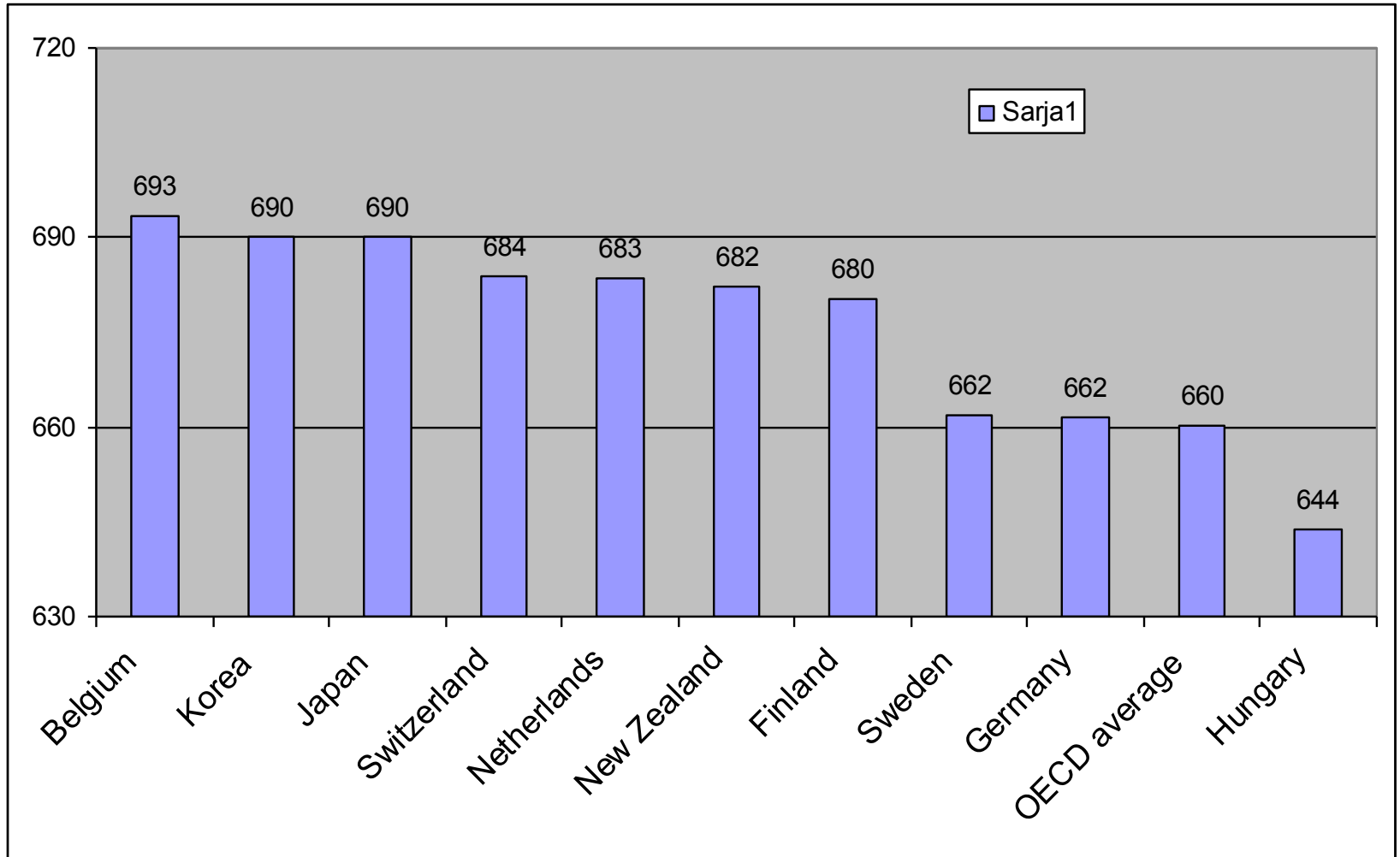


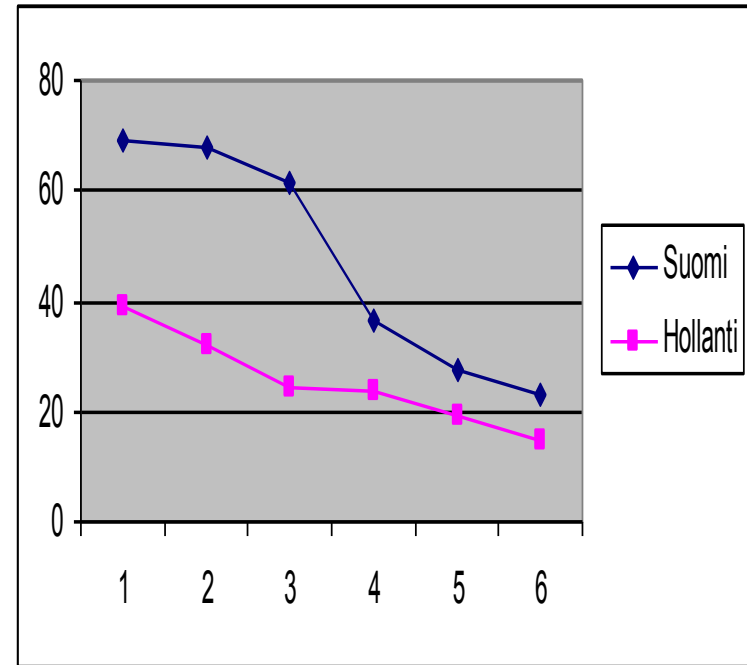
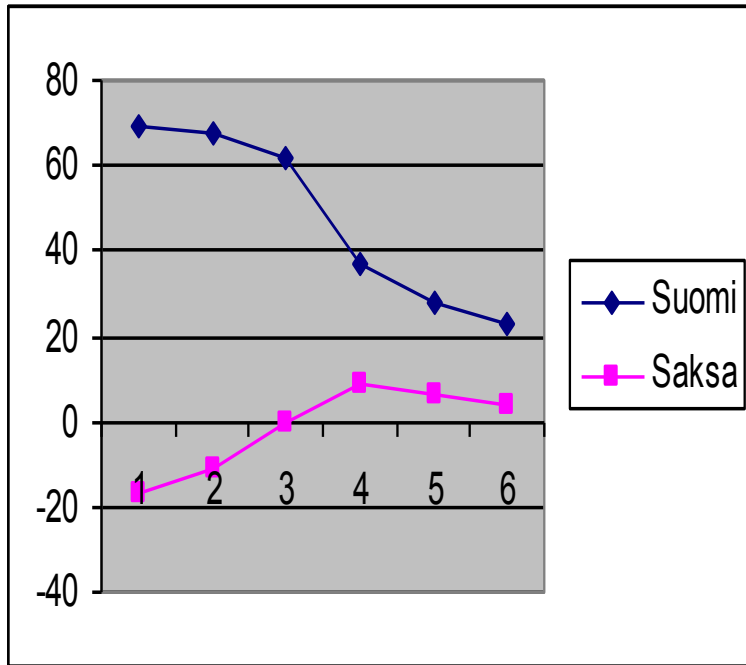


Lowest 5 % OECD countries, in the order of the difference (national mean – OECD average, in 5 % percentile group)



Some of best countries down to Finland and Sweden, Germany and Hungary (means of 95 % percentile segment), PISA 2003 Mathematics





Here we compare the difference of Country mean - respective OECD mean in percentile groups (5, 10, 25, 75, 90 and 95).  
 Finland vs two other European Countries:  
 It seems that the Finnish advantage is due to good outcomes of the lowest 25 %