

# International Conference

## *Quality and Equity in Education: Theories, Applications and Potentials*

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Organized under the ERASMUS+ KA2 project entitled “*Promoting Quality and Equity: A Dynamic Approach to School Improvement (PROMQE)*”

May 19, 2017

University of Cyprus, University House "Anastasios G. Leventis",  
Seminar Room B108, Nicosia



University  
of Cyprus



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# SYMPOSIUM

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## PROMOTING QUALITY AND EQUITY: A EUROPEAN EXPERIMENTAL STUDY



# Lessons Learnt from the European Study



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# Step 1:

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- ▶ To measure the impact of DASI on promoting: **Quality** (increasing student achievement in Mathematics).
- ▶ Multilevel analyses were conducted to determine whether students of the experimental group had a greater progress than the control group

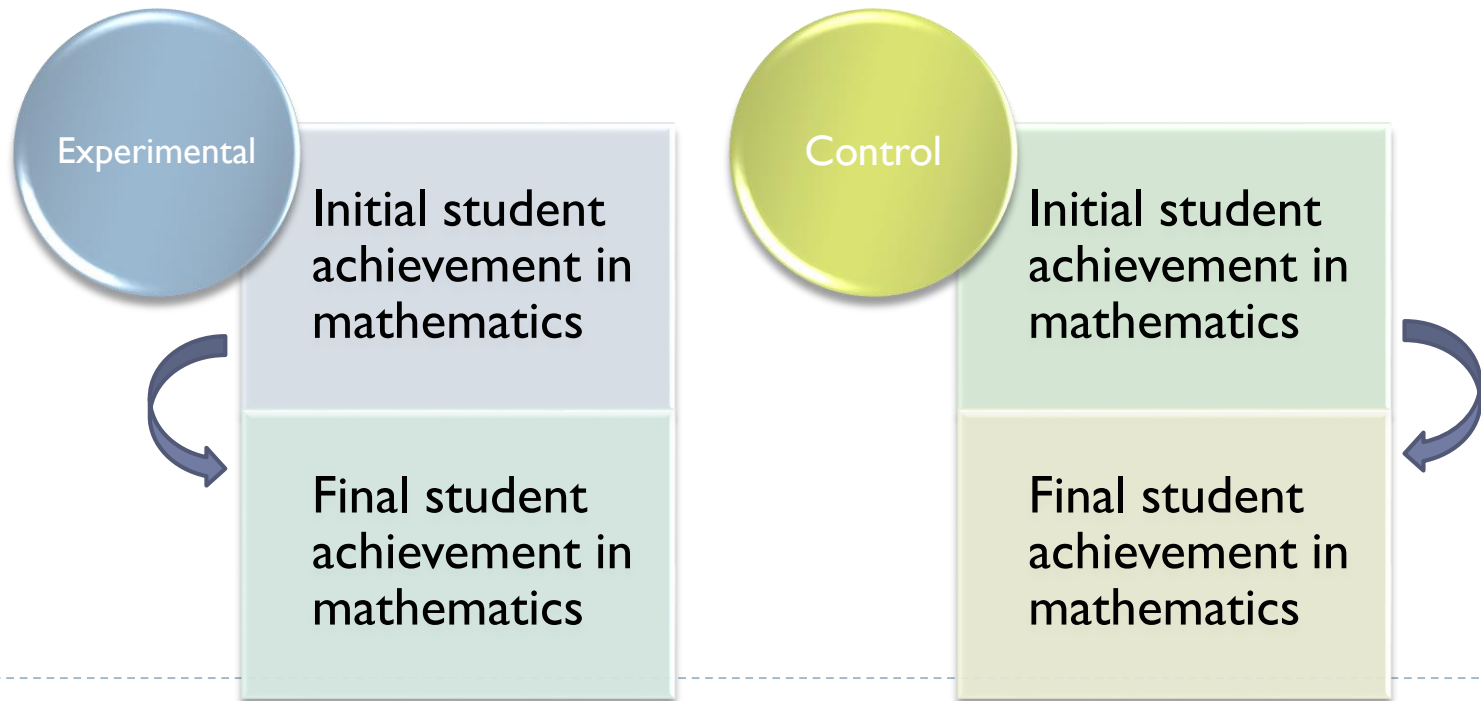


Table 1: Parameter estimates and (standard errors) for the analysis of mathematics achievement (students within classes, within schools)

<b>Factors</b>	<b>Model 0</b>	<b>Model 1</b>	<b>Model 2</b>
<b>Fixed part</b>			
<i>Intercept</i>	0.77 (.04)	0.73 (.07)	0.69 (.05)
<i>Student level</i>			
Prior achievement		0.57 (.01)	0.57 (.01)
Gender (0=boy, 1=girl)		-0.07 (.02)	-0.07 (.03)
SES		0.18 (.02)	0.18 (.02)
<i>Class level</i>			
Average prior achievement		0.07 (.04)*	0.06 (.04)*
<i>School level</i>			
Average prior achievement		0.28 (.09)	0.21 (.09)
DASI (0=control, 1=experimental)			0.19 (.05)
<i>Countries</i>			
Greece		-0.11 (.11)*	-0.10 (.11)*
England		0.29 (.11)	0.28 (.12)
Ireland		-0.13 (.09)*	-0.12 (.08)*
<b>Variance components</b>			
School	16.3 %	10.5 %	6.1 %
Class	23.5 %	17.3 %	13.2 %
Student	60.2 %	35.3 %	35.1 %
Explained		36.9 %	45.6 %
<b>Significant test</b>			
X <sup>2</sup>	17936	13794	13768
Reduction		4142	26
Degrees of freedom		5**	1
p-value		.000	.000

\* Non statistically significant effect at .05 level

## Step 2: Examine whether DASI can be used equally effectively in the four participating countries

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Table 2: Effect of using the DASI approach on student achievement gains in mathematics

Country	Effect	Pooled <i>SD</i>	Cohen's <i>d</i>
Cyprus	0.24	0.73	0.33
Greece	0.28	0.67	0.42
England	0.16	0.71	0.23
Ireland	0.32	0.84	0.38
<b>Across countries</b>	0.19	0.62	0.31



## Step 3:

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- ▶ To measure the impact of DASI on promoting: *Equity* (reducing the impact of SES on student achievement).
- ▶ Multilevel analyses were conducted to examine the impact of SES on student achievement before and after the implementation of DASI in both groups (i.e., experimental and control)



Table 3: Parameter Estimates and (Standard Errors) for the analysis of the impact of SES on student achievement in mathematics (students within classrooms within schools)

Factors	Experimental Group		Control Group	
	Pre-measure	Post-measure	Pre-measure	Post-measure
<b>Fixed part</b>				
<i>Intercept</i>	0.70 (.12)	0.73 (.07)	0.67 (.11)	0.74 (.07)
<i>Student level</i>				
Prior achievement	NA*	0.55 (.01)	NA*	0.59 (.02)
Gender (0=boy, 1=girl)	-0.08 (.03)	-0.07 (.03)	-0.09 (.04)	-0.08 (.03)
<b>SES</b>	<b>0.30 (.00)</b>	<b>0.11 (.02)</b>	<b>0.28 (.00)</b>	<b>0.23 (.02)</b>
<i>Class level</i>				
Average prior achievement	NA*	0.09 (.04)	NA*	0.08 (.03)
<i>School level</i>				
Average prior achievement	NA*	0.24 (.08)	NA*	0.18 (.08)
<u>Countries</u>				
Greece	-0.13 (.12)**	-0.14 (.10)*	-0.14 (.11)**	-0.11 (.09)*
England	-0.05 (.11)**	0.29 (.10)	-0.04 (.10)**	0.28 (.10)
Ireland	0.31 (.13)	-0.14 (.08)*	0.35 (.12)	-0.15 (.09)*
<b>Variance components</b>				
School	13.2 %	10.2 %	14.8 %	10.9 %
Class	24.7 %	17.1 %	25.6 %	17.5 %
Student	42.5 %	35.0 %	41.8 %	34.1 %
Explained	19.6 %	37.7 %	17.8 %	37.5 %
<b>Significant test</b>				
X <sup>2</sup>	11878	13892	10098	12144
Reduction	231.9	571.9	182.4	504.2
Degrees of freedom***	3	6	3	6
p-value	.001	.001	.001	.001



# Measuring the impact of DASI on promoting *Equity*: Main Results

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- ▶ Schools implementing DASI managed to reduce the effect of SES on student achievement in mathematics while for schools of the control group the effect of SES remained the same at the beginning and at the end of the program.



# Conclusions

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1. Schools implementing DASI managed to improve student achievement in mathematics more than schools of the control group.
  - ▶ DASI had an impact on the **quality** dimension
2. Small differences in the effect of DASI were observed in the four participating countries.
  - ▶ DASI was found to be more effective in some countries than others and this should be further studied.



# Conclusions

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3. The impact of SES was similar at the beginning of the intervention in both, the experimental and control schools.
- ▶ At the end of the intervention, the impact of SES on student achievement in mathematics was smaller in schools implementing DASI.
- It can be argued that DASI had an impact also on the **equity** dimension



# Policy Implications – Questions Raised

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- I. What kind of actions and/or policies the state can undertake to promote both quality and equity in schools in Cyprus?
  - ▶ Do you consider that policies and/or existing mechanisms (e.g., teacher placements, financial support to schools, provision of learning and other resources, staff training) need to be modified to improve the effectiveness of our education system in terms of the equity dimension?



# Policy Implications – Questions Raised

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2. The study reveals the need to develop policies and actions at the school level aimed at improving the teaching and learning environment of the school.
  - ▶ To what extent are our schools ready to undertake this role and how could the Ministry of Education support schools to design, implement and evaluate programs to improve their effectiveness?



# Policy Implications – Questions Raised

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3. What actions can the MoEC, the organized bodies and the research community take in order to move on to a model for designing policies, where each proposed reform will be based on a theoretical framework that is evidence-based and theory-driven?
  - ▶ This model suggests that any reform needs to be evaluated to identify its impact on improving the effectiveness of our education system in terms of quality and equity.
  - ▶ If you agree with this view, how do you consider that policies aiming to provide equal educational opportunities, such as the Action for School and Social Inclusion (ΔΠΑ.Σ.Ε.), should be evaluated?



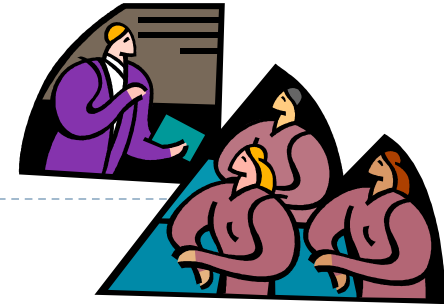
# ACKNOWLEDGEMENTS

- ▶ **This project, entitled “Promoting Quality and Equity: a dynamic approach to school improvement (PROMQE)” has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.**



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# Thank you for your attention!

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▶ Visit our project webpage: [www.ucy.ac.cy/promqe](http://www.ucy.ac.cy/promqe)