# The influence of weekly instruction and homework time on students' academic performance

Luis Alejandro Lopez-Agudo<sup>1</sup> Oscar David Marcenaro-Gutierre z<sup>2</sup>

## **Abstract**

### **Objective**

Students' use of time and its effective use are of high relevance for their learning and, because of that, this is an issue which has been placed at the core of the education debate. In the present study we intend to check whether both instruction and homework time are contributing to improve students' competences or not.

#### Data and methodology

In order to approach this issue, we have employed Trends in Mathematics and Science Study (TIMSS) 2019 data, focusing on 4<sup>th</sup> grade students in 58 countries. Our intention is to go beyond correlation and approach causality as much as possible so, for this purpose, we employ student fixed-effects within-students between-subjects.

#### Results

Our main findings show that weekly instruction and homework time present a null influence on students' competences in most of the countries under analysis, while they also present a low positive one in some of them.

#### **Conclusions**

The most likely explanation for these results may be that TIMSS measures students' competences, which are related to the abilities that students use in their daily life, and not to content-based knowledge, which is more related to memorisation or to mechanical tasks. Therefore, this instruction and homework time may not be helping students to improve their competences.

**Keywords:** weekly instruction time; weekly homework time; student fixed-effects; TIMSS; fourth grade.

**JEL Codes:** I20, I21, I28.

**522 Coucs**, 120, 121, 120.

**Acknowledgements:** This work has been supported by the *Ministerio de Economía*, *Industria y Competitividad* under Research Project ECO2017-88883-R; the *Consejería de Innovación*, *Ciencia y Empresa de la Junta de Andalucía* under PAIDI group SEJ-645 and the FEDER funding under Research Project UMA18FEDERJA024.

<sup>&</sup>lt;sup>1</sup> Corresponding author. Departamento de Economía Aplicada (Estadística y Econometría). Facultad de Ciencias Económicas y Empresariales. Universidad de Málaga. Plaza de El Ejido s/n, 29013, Málaga (España). E-mail: <a href="mailto:lopezagudo@uma.es">lopezagudo@uma.es</a>. Tel.: +34 952137003. ORCID: <a href="mailto:lopezagudo@uma.es">0000-0002-0906-3206</a>

<sup>&</sup>lt;sup>2</sup> Departamento de Economía Aplicada (Estadística y Econometría). Facultad de Ciencias Económicas y Empresariales. Universidad de Málaga. Plaza de El Ejido s/n, 29013, Málaga (España). E-mail: <a href="mailto:odmarcenaro@uma.es">odmarcenaro@uma.es</a>. Tel.: +34 952137003. ORCID: <a href="mailto:odmarcenaro@uma.es">odmarcenaro@uma.es</a>.