



Pearson

Sistema COC

Product Efficacy Report Summary

In Brazil, students with the highest national exam scores earn places at the best universities in the country. High schools must prepare their students for these exams, the most important of which is the Exame Nacional do Ensino Médio (ENEM), or National Exam of Upper Secondary Education. Sistema COC is an integrated learning system for Brazilian private schools. Its multimedia resources and cross-curricular approach aim to prepare high school students to progress to higher education, particularly by achieving high marks on the ENEM.



Study 1

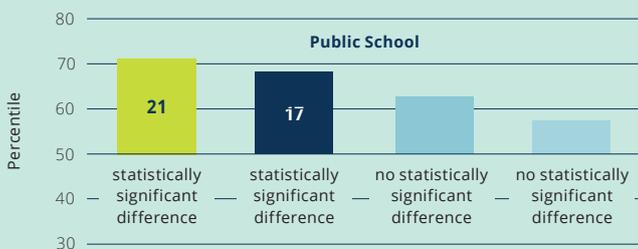
Pearson explored the relationship between the use of Sistema COC with learner outcomes like students' achievement in the simulated national assessments. We conducted a study comparing results on the SimENEM, a practice exam, for students in Sistema COC schools with similar students in public and private schools not using Sistema COC.

We found that Sistema COC students statistically outperformed other similar non-Sistema COC public school attendees in SimENEM subjects Language, and Natural Science, by a large margin (i.e. 21 and 17 percentile points). And, there were no statistically significant differences in performance between Sistema COC students and non-Sistema COC private school students in Language, Math, Human Science, or Natural Science.

In the context of this study, we can make the following comparative statements about the efficacy of Sistema COC (See diagram below):

Comparative statements

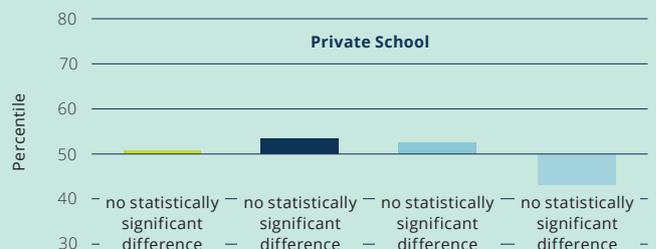
Percentile of average Sistema COC students' performance with matched public school students' performance set to the median



Note: 50 indicates median performance for the public school students' matched groups

COC students statistically outperformed other similar non-COC public school attendees in both Language and Natural Science by a large margin (21 and 17 percentile points or 0.56 and 0.44 standard deviations, respectively). There were no significant differences in Math and Human Science.

Percentile of average Sistema COC students' performance with matched non-Sistema COC private school students' performance set to the median



Note: 50 indicates median performance for the non-Sistema COC private school students' matched groups

There were no significant differences in performance between COC students and non-COC private school students in Language, Math, Human Science and Natural Science

Key Language Natural Science Math Human Science

All these results come after matching examinees older than 18 on 2017 SimENEM scores, grade levels, the number of people living in their households, and how many school years they had attended the same school¹.

¹ The efficacy statements derived from the results of this study are considered comparative rather than causal for four main reasons:

- Differences in Brazilian private and public schools cannot be equated through matching.
- Half the Sistema COC examinees attended Sistema COC schools before 2017, and thus were exposed to the study treatment prior to baseline testing, precluding the matching or equating of study groups prior to treatment.
- One of the matching variables, the number of people living at home, had group mean differences larger than 0.25 standard deviations after matching for the Sistema COC-to-public school comparison on Language.
- Examinees who reported they used Sistema COC but were public school students were omitted from the study, because all Sistema COC schools are private schools.

How we did the research

This matched-groups, quasi-experimental study examined how Sistema COC high school students' achievement compared to similar students in public schools and private schools not using Sistema COC. It analyzed achievement using students' scores on the 2018 Simulated ENEM (SimENEM) exam.

To help isolate that it was the COC learning program that had an effect, these results matched examinees older than 18 on 2017 SimENEM scores, grade levels, the number of people living in their households, and how many school years they had attended the same school. To remain transparent and rigorous, we used this much smaller sample rather than all the students who took the SimENEM.

Pearson's efficacy commitment

Efficacy is core to all we do. Our commitment to improving learner outcomes means that the products and services we provide to learners around the world are designed to help them make measurable progress in their lives through learning. In practice, this involves identifying the outcomes that matter most to learners and educators, and then designing products based on evidence from learning science about what will help realize those outcomes. We iteratively explore the impact that the use of our products has on learning and apply these insights to continuously improve our products and services.

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