PISA IN FOCUS 3

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Does investing in after-school classes pay off?

- Students in countries that perform well in PISA spend less time, on average, in after-school lessons and individual study, and more time in regular school lessons, than students in countries that are poor performers in PISA.
- After-school classes with a school teacher can enhance equity while after-school classes with a teacher who is not from the school can exacerbate inequities among students.
- When students think it is important to do well in science, the time spent in the classroom has a greater impact on student performance in science.

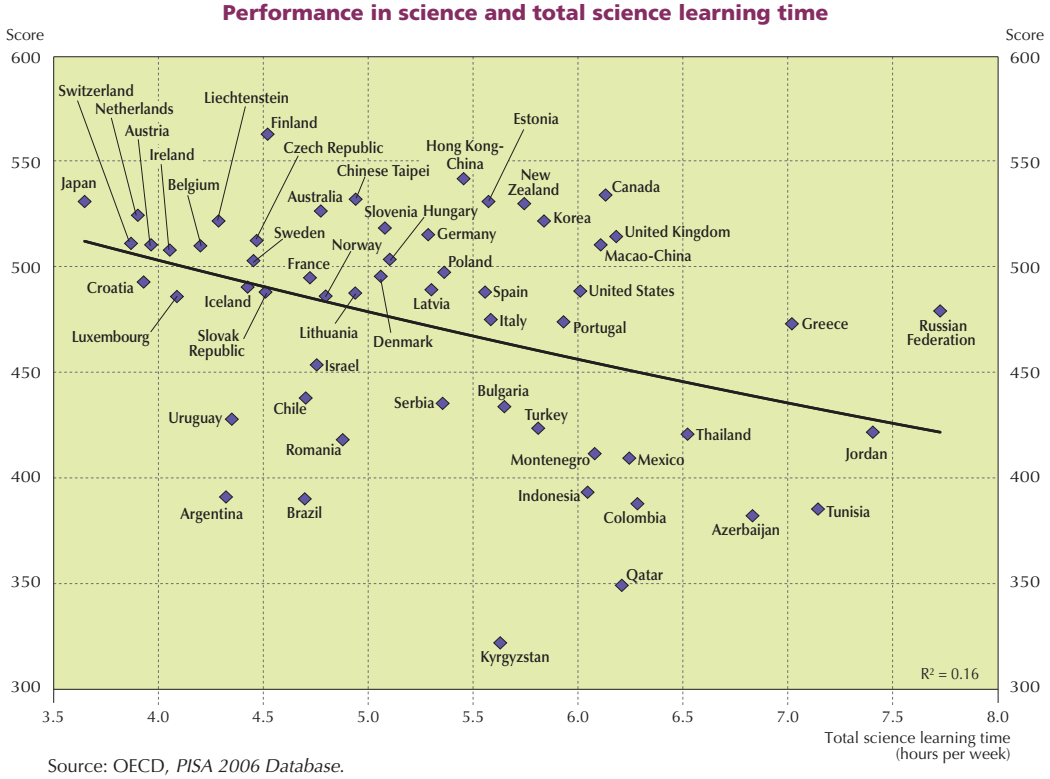
It's the quality, not the quantity, of learning time that matters most.

With all the competition to get into the right universities to secure the best jobs, secondary school students are often encouraged to take after-school classes in subjects already taught in school to help them improve their performance – even if that means forsaking other fun and interesting ways of spending after-school hours, such as playing sports, taking music lessons or volunteering at a local community centre or hospital. Students in the OECD area spend an average of nearly two-and-a-half hours per week in after-school lessons. In Greece, Israel, Korea, Turkey and the partner countries Azerbaijan, Kyrgyzstan, Qatar and Tunisia, students spend over four-and-a-half hours per week in such classes. Does that investment in after-school classes pay off?

Not necessarily. In fact, according to findings based on PISA 2006 results, learning time spent in after-school lessons and individual study is negatively related to performance. Of course, this might be because students who attend after-school classes do so for remedial purposes, rather than to enhance their school studies. Still, across countries, findings show that students tend to perform better if a high percentage of their total learning time – which includes regular school lessons, after-school lessons and individual study – is spent during normal school hours in a classroom. For example, in the high-performing countries of Australia, Finland, Japan and New Zealand, over 70% of learning in science happens during regular school lessons. Yet time spent learning does not fully explain why students in these countries are among the best performers. In fact, in all of these countries except New Zealand, 15-year-olds spend fewer hours learning science compared to the OECD average. The same pattern is observed for mathematics and language-of-instruction learning time. This implies that it is the *quality* of school lessons, and not the *quantity* of learning hours, that has the most impact on student performance.

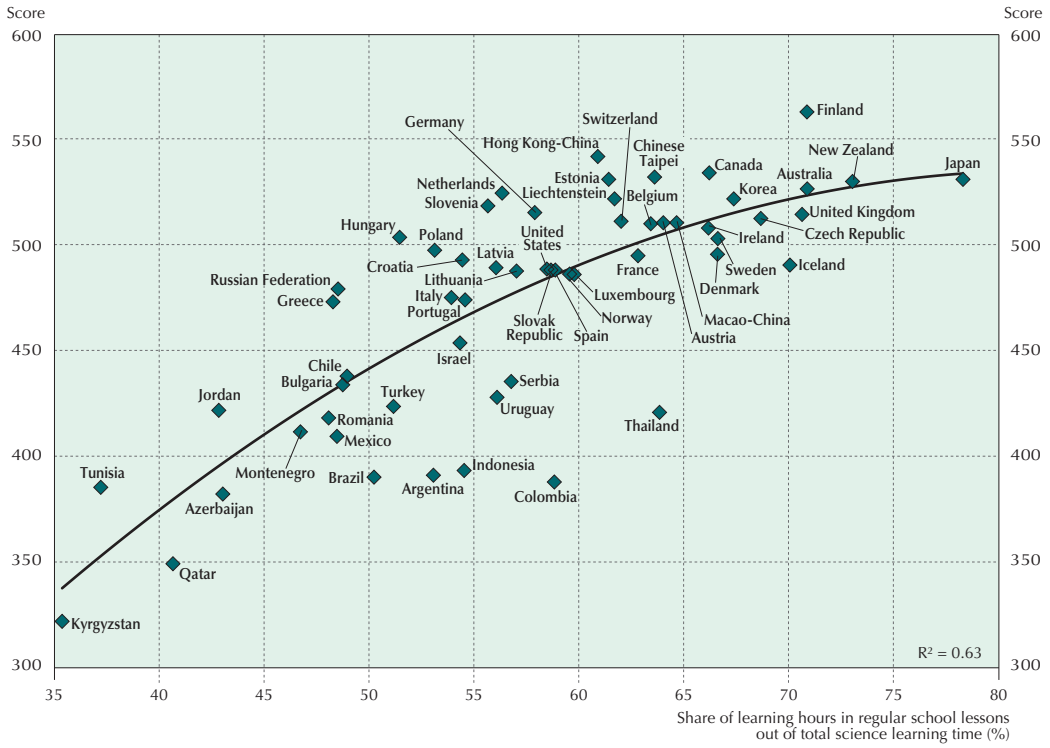
PISA IN FOCUS

Performance in science and total science learning time



Source: OECD, *PISA 2006 Database*.

Performance in science and relative learning time in regular school science lessons



Source: OECD, *PISA 2006 Database*.

Some after-school classes are more inclusive than others.

The types and purposes of after-school classes vary widely, from those taught in school by a school teacher to those given off of school premises by an educator not affiliated with the school; from remedial, "catch-up" classes to enrichment courses. While PISA results show that some types of after-school classes are related to better performance, the extent to which attendance moderates or reinforces existing inequities between students from different socio-economic groups varies across countries. For example, in Italy, Korea, Poland, the United Kingdom, the partner countries Lithuania and the Russian Federation, and the partner economy Chinese Taipei, attending after-school classes led by a school teacher tends to reduce the impact of students' socio-economic background on their academic performance. This is because disadvantaged students are more likely to attend this type of after-school class and are then more likely to do better than students who do not participate in any after-school classes. Meanwhile, in Estonia, Ireland, Korea, Poland, Spain, Turkey, the partner countries Bulgaria, Kyrgyzstan, Latvia, Uruguay, and the partner economies Chinese Taipei and Hong Kong-China, group lessons led by a teacher who is not from the regular school tend to reinforce the impact of socio-economic background on performance. In these countries, it seems that socio-economically advantaged students are more frequently able to participate in this type of lesson, and they are then more likely to achieve higher scores than students who do not participate in any after-school classes.

Difference in students' performance, by different types of after-school lessons

Students from **socio-economically disadvantaged backgrounds** or schools are more likely to attend group lessons.

Students from **socio-economically advantaged backgrounds** or schools are more likely to attend group lessons.

No significant difference between students from advantaged and disadvantaged backgrounds and schools in attending group lessons.

Group lessons with school teachers

	Score point difference when attending this type of group lessons	Socio-economic background of students	Socio-economic background of schools
Korea	28		
Kyrgyzstan	25		
United Kingdom	23		
Bulgaria	20		
Russian Federation	17		
Lithuania	16		
Poland	12		
Turkey	11		
Chinese Taipei	8		
Italy	7		

Group lessons with other educators

	Score point difference when attending this type of group lessons	Socio-economic background of students	Socio-economic background of schools
Turkey	41		
Greece	37		
Chinese Taipei	36		
Korea	28		
Bulgaria	27		
Australia	22		
Poland	21		
Hong Kong-China	21		
Kyrgyzstan	20		
Latvia	19		
Argentina	19		
Azerbaijan	17		
Uruguay	17		
Estonia	15		
Spain	14		
Ireland	11		

Note: These figures show only those countries where attending group lessons with school teachers/other educators is positively associated with performance.
Source: OECD, *PISA 2006 Database*.

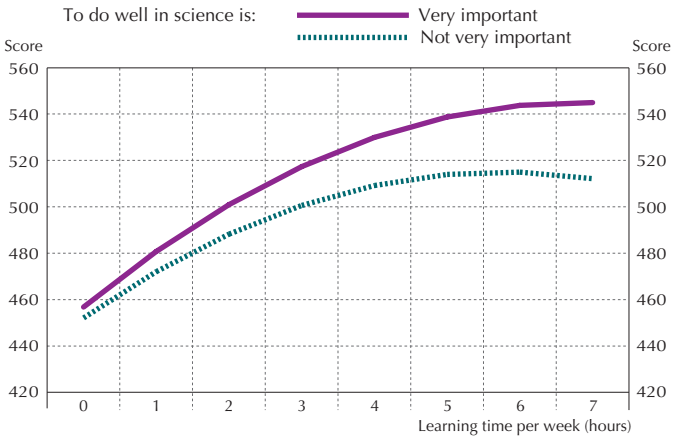
Students need to believe that what they learn is important.

Effective learning is not just about what is available to students; the students, themselves, need to be convinced that doing well in a particular subject matters. PISA 2006 asked students whether they believed that doing well in science is important. Results show conclusively that when students believe so, the performance advantage of spending more time in science class is greater than that for students who do not believe so.

Among students in the OECD area who reported that doing well in science is very important, an increase of one hour in regular school lessons in science corresponds to an average increase of around 26 score points in PISA.

Among students who reported that doing well in science is not very important, an increase of one hour in regular school lessons in science corresponds to an average increase of around 22 score points, after taking into account the socio-economic background of students and schools. Consequently, there is a substantial difference in performance – 20 score points or more – between these students when they spend five hours or more per week in regular school lessons in science. In the Czech Republic, France, Greece, Iceland, New Zealand, Portugal, Spain, and the partner country Romania, attitudes towards learning science make an even bigger difference. Students in these countries who reported that doing well in science is very important scored at least six points higher for every additional hour spent in regular school science classes than students who reported that doing well in science is not so important.

Relationship between performance in science and learning time in regular school science lessons, by students' attitudes towards doing well in science



Source: OECD, *PISA 2006 Database*.

It is crucial to make the most of learning time, and of the quality of that time, since it is often not feasible to increase the absolute number of learning hours. The more important task would be to enhance students' understanding of why it is important to learn a particular subject, which would, in turn, help students to use their learning time more efficiently.

The bottom line: When it comes to learning, it's the quality of teaching at school and students' attitudes towards learning that count most, not the number of hours students spend studying.

For more information

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