What do we know about teachers' selection and professional development in high-performing countries?



PISA In Focus #70

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BETTER POLICIES FOR BETTER LIVES



What do we know about teachers' selection and professional development in high-performing countries?

• High-performing countries use various mechanisms to select the best candidates to the teaching profession. In Finland, Hong-Kong (China), Macao (China) and Chinese Taipei, students who wish to enter teacher-training programmes must pass a competitive entry examination. In Japan, teaching graduates must pass a competitive examination to start teaching and in Singapore, they must complete a probation period. These requirements, however, are also found among some low-performing countries suggesting that early selection, while important, is not enough to ensure a highly qualified teaching force.

• Across OECD countries, the proportion of fully certified teachers has a positive, albeit modest association with student performance in PISA.

• In countries that performed above the OECD average in science, at least 80% of the students are in schools that invite specialists to conduct teacher training or organise in-service workshops for teachers or where teachers cooperate with each other. This is higher, on average, than what is observed among other countries.

There is no simple or single way to identify and select the best candidates for the teaching profession. The difficulty starts with the very definition of what a good teacher is. Having a strong knowledge base in the subject to be taught, classroom management skills and a commitment to helping students learn are some obvious prerequisites for the profession, but may no longer be sufficient to meet the expanding role of teachers. In a rapidly changing world, teachers are also expected to teach diverse groups of students, adapt to new technologies and curricular changes, and be attuned to the skills, values and attitudes that their students will need in the near future. Most teachers acquire these knowledge and skills while on the job, throughout their teaching careers. And they frequently do so by participating in professional development activities, one of the three pillars of teacher professionalism, together with professional autonomy and participation in peer networks. But how are teachers selected and what professional development activities are being offered in high-performing school systems?

Selection mechanisms may yield a more qualified pool of candidates, but they do not reliably predict student performance.

Competitive examinations to enter teaching-training programmes or to start teaching can create a more select pool of candidates and even contribute to making teaching a prestigious occupation in some countries. But in contexts where teacher shortage is a problem, such mechanisms may inadvertently discourage potentially suitable candidates from considering a teaching career. And there is hardly any discernible pattern among PISA-participating countries linking the use of such mechanisms to student performance. In some high-performing countries and economies, such as Finland, Hong Kong (China), Macao (China) and Chinese Taipei, candidates must pass a competitive examination to be admitted into pre-service teacher training; but such requirements are found among some low-performing countries too. In Japan, the competitive examination

Entry requirements into the teaching profession (secondary education, general programmes)

Yes | At the discretion of institutions | No | Not applicable | Missing

	Student performance in science	Competitive examination required to enter pre-service teacher training	Teaching practicum (pre-service training) is mandatory	Competitive examination required to enter the teaching profession	Credential or license required to start teaching	Credential or license required to become a fully qualified teacher	Teachers are appraised for completion of probation[1]	Teachers are appraised for teacher registration[1]
Singapore	556							
Japan	538							
Estonia	534							
Chinese Taipei	532							
Finland	531							
Macao (China)	529							
Hong Kong (China)	523							
Korea	516							
Belgium (Fl.)	515							
New Zealand	513							
Slovenia	513							
England	512							
Australia	510							
Germany	509							
Netherlands	509							
Switzerland	506							
Ireland	503							
Denmark	502							
Poland	501							
Portugal	501							
Norway	498							
Scotland	497							
United States	496							
Austria	495							
France	495							
Sweden	493							
Czech Republic	493							
Spain	493							
Russia	487							
Belgium (Fr.)	485							
Luxembourg	483							
Italy	481							
Hungary	477							
Lithuania	475							
Croatia	475							
Iceland	473							
Israel	467							
Malta	465							
Slovak Republic	461							
Greece	455							
Chile	447							
Bulgaria	446							
United Arab Emirates	437							
Uruguay	435							
Turkey	425							
Thailand	421							
Qatar	418							
Colombia	416							
Mexico[2]	416							
Montenegro	411							
Georgia	411							
Brazil	401							
Peru	397							
FYROM*	384							
Dominican Republic	332							
Argentina								
Kazakhstan								

* FYROM refers to the Former Yugoslav Republic of Macedonia.

1. Appraisal is legislated/practiced countrywide in all countries with available data with a few excetions: Canada and United States (some states); England (some schools). Appraisal in the context of teacher registration is understood as the process to award or renew teachers' registered teaching status after the probationary period has been completed.

2. In Mexico, teaching practicum as part of pre-service training is at the discretion of the students.

Countries and economies are sorted in descending order of the average student performance in science. See sources tables for notes about individual countries.

Source: OECD, PISA 2015 Database, Tables I.2.3, II.6.56 and II.6.57.



is held later, as a condition to start teaching. While there are no such examinations in Singapore, teaching graduates there must successfully complete a probation period in which their competence for the job is evaluated. Singapore also tries to recruit candidates from the top third of the secondary school graduating class and offers them attractive working conditions, such as a competitive monthly stipend during the training period.

Teacher certification is modestly associated with students' performance in science.

Certification requirements add another layer of selection. While teacher certification, credentials and licenses offer no guarantee of excellence in teaching, they may help ensure that only the most motivated candidates progress in their career. In PISA 2015, principals reported on the qualifications of teachers in their schools. Countries that performed above the OECD average in science have a higher percentage of fully certified teachers (92%) compared to other countries (76%), on average. In some top performing countries and economies, such as Japan, Macao (China) and Beijing-Shanghai-Jiangsu-Guangdong (China) (hereafter "B-S-J-G [China]"), more than 95% of the teachers are fully certified. However, these differences should be carefully interpreted since the standards needed to acquire a teaching certification may vary considerably between countries.

The proportion of teachers who have been certified to teach by an appropriate authority often does not vary much across schools, particularly in school systems where almost all teachers have been certified. Nevertheless, in OECD countries this variation is also positively, but only modestly, associated with student performance.

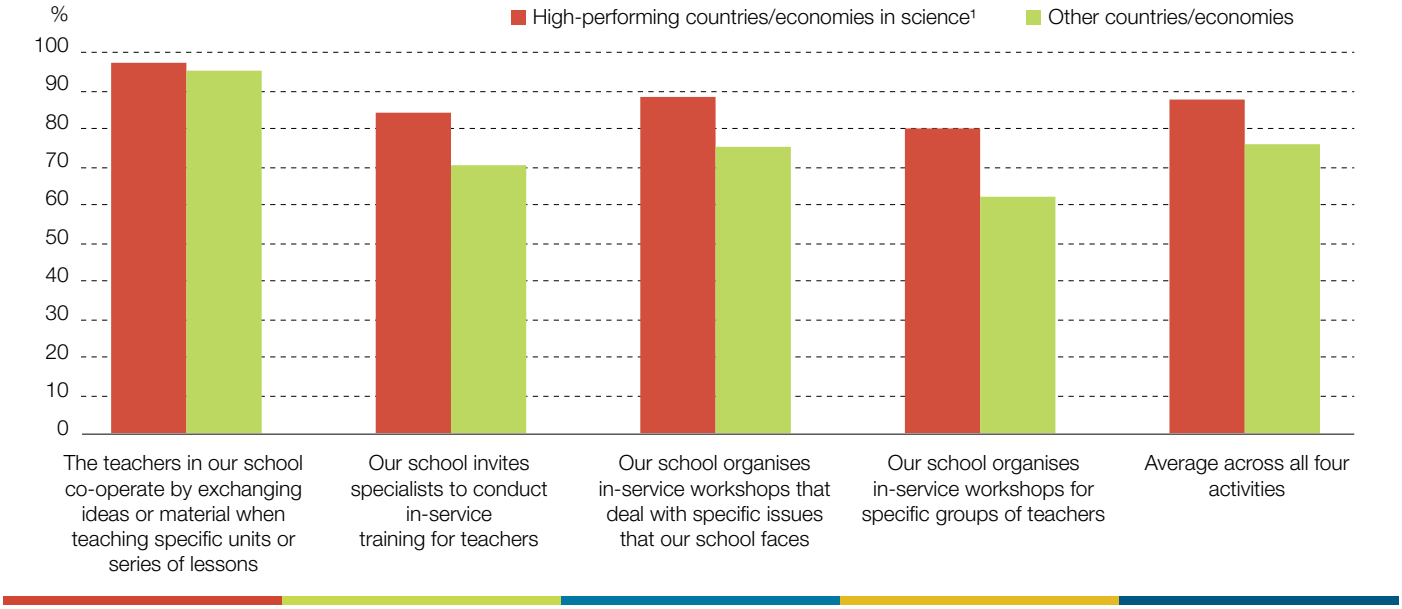
In-house professional development activities, particularly those that promote teacher collaboration, can be effective.

Teachers, like many other professionals, need to remain abreast of what is new in their field and be able to respond to the emerging demands of their job, which is why many countries make professional development mandatory. PISA asked school principals about a variety of professional development activities offered by schools. In countries that performed above the OECD average in science, at least 80% of the students are in schools that invite specialists to conduct teacher training or organise in-service workshops for teachers or where teachers cooperate with each other; this is significantly higher, on average, than what is observed among other countries. The overall percentage of students in schools that offer these in-house professional development is higher than 95% in Australia, B-S-J-G (China), New Zealand, Singapore, and the United Kingdom. In contrast, in Algeria, Brazil, Kosovo and Turkey, only 40% to 60% of students are enrolled in schools that offer in-house professional development.

When looking at results within countries, PISA 2015 results show that the association between teachers' participation in professional development activities (all teachers and/or just science teachers) and students' performance in science is weak in most PISA-participating countries and economies. Only professional collaboration among teachers in the school is positively associated with student performance in science, after accounting for the socio-economic profile of students and schools. In schools where principals reported that teachers co-operate by exchanging ideas or material, 15-year-old students scored 9 points higher in science.

The advantage of peer-learning activities compared to attending a lecture by an external specialist, for example, may come from the fact that feedback and ideas from other experienced teachers in the same school are more directly related to concrete and common challenges in the classroom. Collaboration can also privilege "tried and tested" techniques that are, by default, grounded in that particular school context. PISA also finds that teachers are more likely to participate in professional development activities when the school itself organises them.

Percentage of students in schools whose principals reported these in-house professional development activities



1. High-performing countries/economies that performed above the OECD average in science.
Source: OECD, PISA 2015 Database, Tables I.2.3, II.6.56, and II.6.57, and Figure I.2.13.

The bottom line

High-performing countries try to attract the most promising candidates to the teaching profession early on, but they also understand that talent can and must be nurtured through high-quality training and continuous learning. These countries strive to boost teachers' knowledge base, enhance the professional qualifications of teachers and involve them in professional development activities, particularly teacher collaboration.

For more information

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See: OECD (2016), *PISA 2015 Results (Volume II): Policies and Practices for Successful Schools*, PISA, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264267510-en.

OECD (2016c), *Supporting Teacher Professionalism: Insights from TALIS 2013*, TALIS, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264248601-en.

OECD (2015), "Embedding Professional Development in Schools for Teacher Success", *Teaching in Focus,* No. 10, OECD Publishing, Paris, http://dx.doi.org/10.1787/5js4rv7s7snt-en.

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