TEACHING in Focus

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Teaching with technology

- Information and communication technology (ICT) use has been identified as one of the more active teaching practices, which promote skills students need for success. And yet, less than 40% of teachers across Teaching and Learning International Survey (TALIS) countries report using ICT as a regular part of their teaching practice.
- Shortages in computers, Internet access and software are commonly reported by school principals as hindering the provision of quality education in their schools.
- Across TALIS countries, many teachers report that the second and third most critical needs for their professional development are training in the use of ICT for teaching, and in new technologies in the workplace.
- The use of ICT in teaching can be encouraged particularly by participation in professional development activities (such as those that involve individual or collaborative research, or networks of teachers) and a positive classroom climate.

What is TALIS?

TALIS (Teaching and Learning International Survey) is the first international survey examining teaching and learning environments in schools. It asks teachers and school principals about their work, their schools and their classrooms. This cross-country analysis helps countries identify others facing similar challenges and learn about their policies.

TALIS 2013 focused on lower secondary education teachers and their principals. It sampled 200 schools in more than 30 countries and 20 teachers in each school.

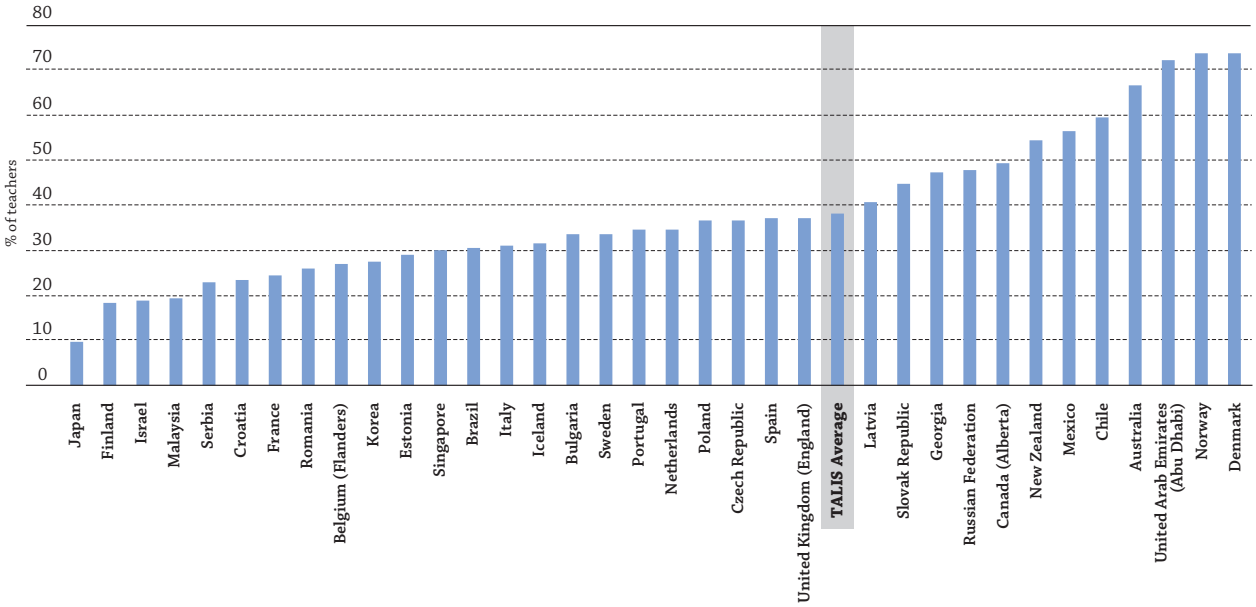
More information is available at *www.oecd.org/talis*

TALIS

Teaching practices involving technology

Technology has an ever-growing presence in our lives, which should be reflected in our schools and classrooms. The use of ICT for students' class work or projects can be an example of an active teaching practice, which promotes the skills that students need for success academically and on the job market. However, in comparison to more traditional methods of teaching, active practices tend to be less frequently used in TALIS countries and economies. For example, presenting a summary of recently learned content or checking students' exercise books are frequently performed by, on average, 70% of teachers. However, only 38% report frequently using ICT in students' projects or class work (see Figure 1).

Figure 1 • **Teachers' use of ICT for students' projects or class work**



Source: OECD, TALIS 2013 Database.

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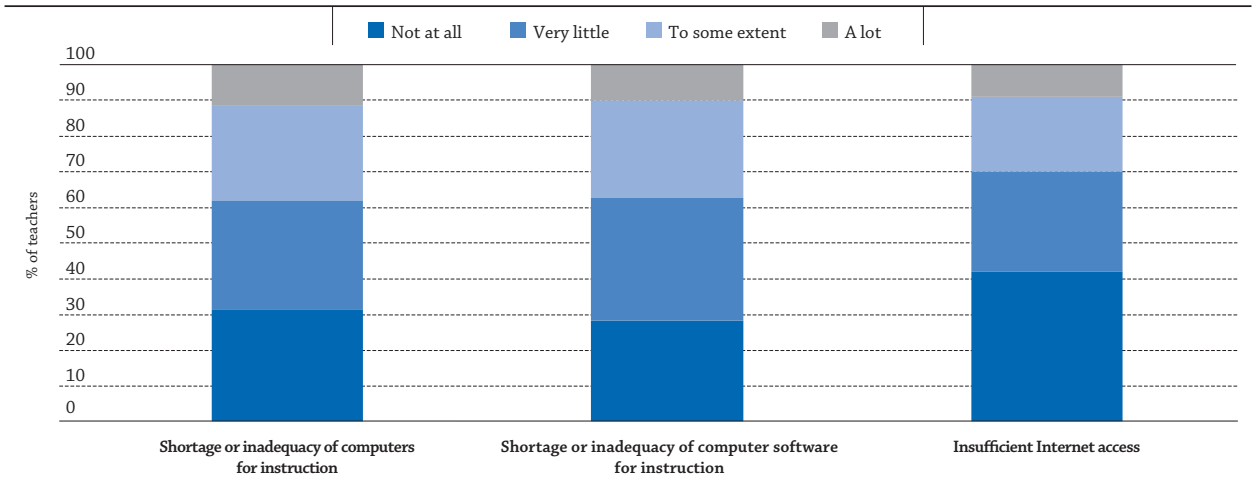
Shortages in ICT-related school provisions

The use of technology in schools may be hindered by the shortage of ICT-related school materials. A number of school leaders report inadequate or limited resources in terms of computers or computer software for instruction, or Internet access. Across TALIS countries between approximately 30% and 40% of teachers work in schools where principals report that ICT-related shortages hinder their school's capacity to provide quality instruction to, at least, "some extent". This is illustrated in Figure 2.

Figure 2 • **ICT-related shortages hindering the school's capacity to provide quality instruction**

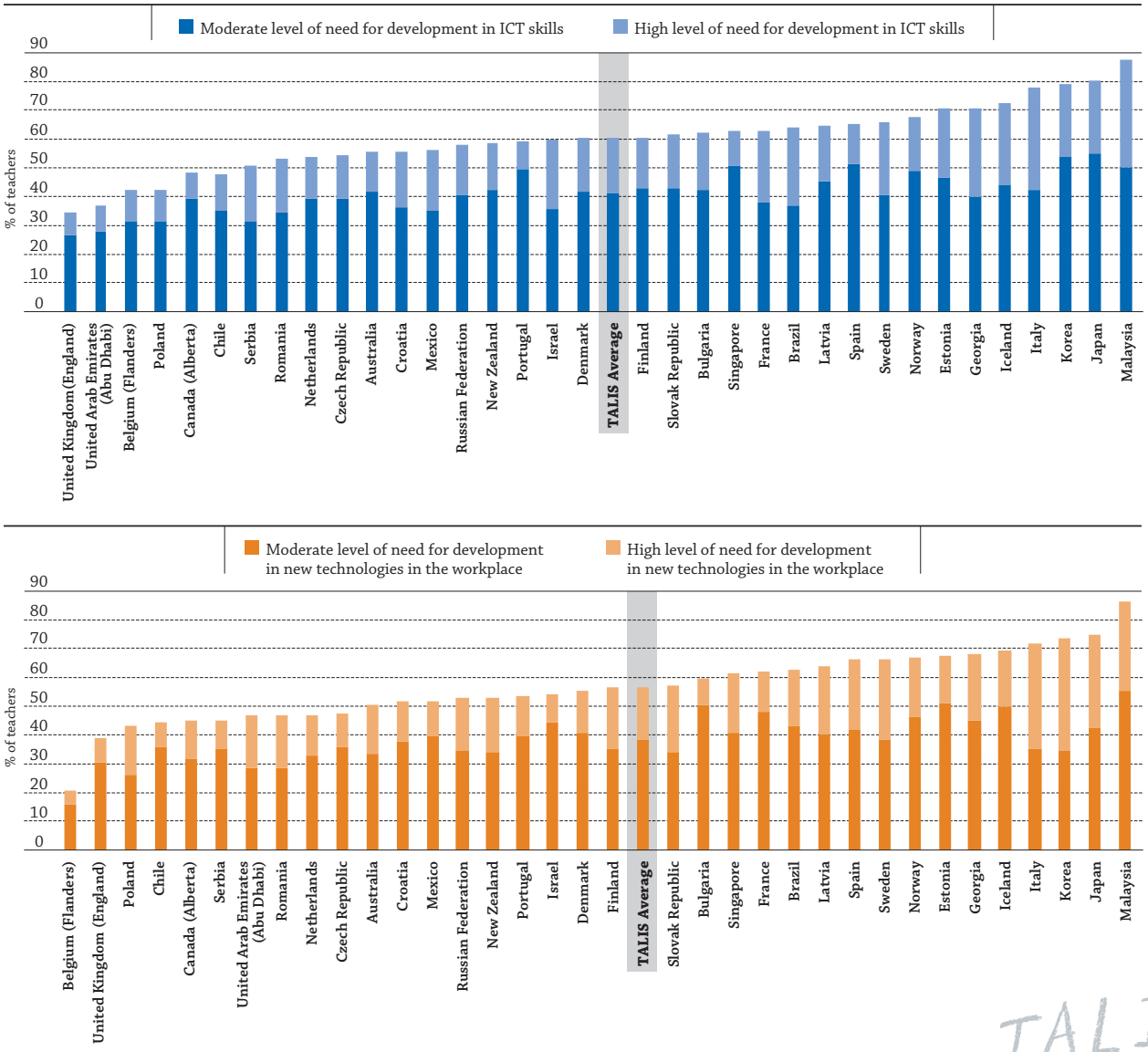


Source: OECD, TALIS 2013 Database.

The challenge of using technology in teaching

The demands of technology also affect teachers' professional development. Findings from TALIS show that about 60% of teachers report moderate or high development needs in ICT skills for teaching. This makes it the most commonly reported area for development after the teaching of students with special needs. In addition, over 56% of teachers report moderate or high development needs with the use of new technologies in the work place. This differs across countries, as Figure 3 illustrates.

Figure 3 • **Teachers' need for professional development in ICT skills for teaching and new technologies in the workplace**



Source: OECD, TALIS 2013 Database.

Around 55% of TALIS teachers report participating in professional development activities relating to ICT skills for teaching; and about 40% of teachers report participating in professional development courses in new technologies in the workplace. Teachers report a positive impact on their teaching as a result of participation in these courses.

Increasing teachers' use of technology

There are several factors associated with an increased use of ICT in teaching. For example, research shows that participation in professional development activities that involve individual or collaborative research, or a network of teachers, makes it more likely that a teacher will more frequently use ICT for students' work. In addition, teachers who report a positive disciplinary classroom climate are more likely to use ICT in their teaching. It is possible that positive classroom climate is more conducive to the use of ICT (e.g. because of few disruptive students) or that the use of ICT helps to ameliorate classroom climate (e.g. because students enjoy interacting with technology). Teachers who hold constructivist beliefs about their job (i.e. those who see themselves as facilitators of students' own inquiry, or see thinking and reasoning as more important than specific curriculum content) are also more likely to use ICT and other active teaching techniques. This may be due to the fact that ICT can enable students to pursue knowledge in more independent ways than traditional teaching, in line with the constructivist approach.

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What this means in practice

The provision of ICT-related materials for teaching seems to be lacking for a number of schools across TALIS countries. However, in many classrooms teachers may not be using the full potential of ICT as they lack the relevant professional development. Hence, teachers, school leaders and policy makers who want to open their classrooms to the digital world should maximise teacher participation in relevant professional development activities. This entails creating new incentives for teacher participation, but also minimising the barriers that many teachers face, such as conflicts with their work schedules, or the high costs of development activities.

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The bottom line Technology alone will not enhance learning, but using it as part of good teaching practice can open new doors to learners and teachers. It is striking that although technology is prevalent in our daily lives, the majority of teachers in many countries do not frequently use ICT in their practice. In some schools this may be due to the lack of provision, however, TALIS data show that it is teachers' professional development, as well as their beliefs about work, that are key to unlocking technology's potential for teaching and learning.

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To learn more

OECD (2014a), *TALIS 2013 Results: An International Perspective on Teaching and Learning*, TALIS, OECD Publishing, Paris.
OECD (2014b), *A Teachers' Guide to TALIS 2013*, TALIS, OECD Publishing, Paris.
OECD (2012), *The experience of new teachers: Results from TALIS 2008*, TALIS, OECD Publishing, Paris.

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