

Trends Shaping Education Spotlight 9

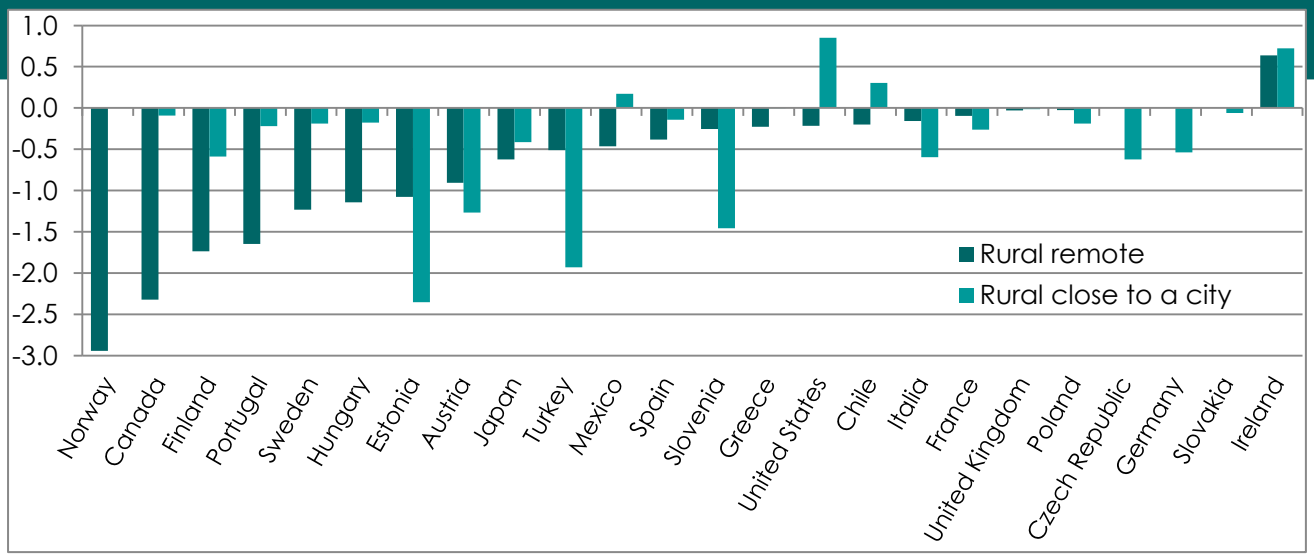
Country Roads: Education and Rural Life

As urban centres grow, rural areas, particularly those most remote, see their attractiveness decrease. Shrinking and ageing populations threaten opportunities for development and investment and access to services decline. Quality rural education is important for individual growth and social cohesion as well as regional economic productivity and innovation.

Trends in rural population

On average, rural areas are losing attractiveness across OECD countries, especially among the youngest (OECD, 2016c). As Figure 1 shows, this is particularly the case for remote rural regions, such as those found in Canada, Finland and Norway. In Norway, for example, the share of the overall population living in remote rural areas declined 2.9% between 2000 and 2014, which would be equivalent to about 150 000 people in a country of 5 million. Between 2001 and 2016, the number of population aged 0 to 14 decreased by almost 10% in rural Norway (OECD, 2017b). This trend is also present in rural regions close to cities, although to a lesser extent. In fact, exceptions to this decline in rural areas close to cities can be found in Chile, Ireland and the US.

Figure 1: Change in the share of population living in rural regions, 2000-2014



Source: OECD (2016b), *OECD Regions at a Glance 2016*, OECD publishing, Paris, http://dx.doi.org/10.1787/reg_glance-2016-en.

In order to combat this trend, good transport links and access to more diverse and resilient urban markets can form strong economies of "proximity" for rural areas close to cities. Remote regions are working to develop economic advantages by capitalising on natural environments and cultural heritage, and have strategically targeted specific economic sectors, such as rural tourism, services for retirees and renewable energy production (OECD, 2016c).

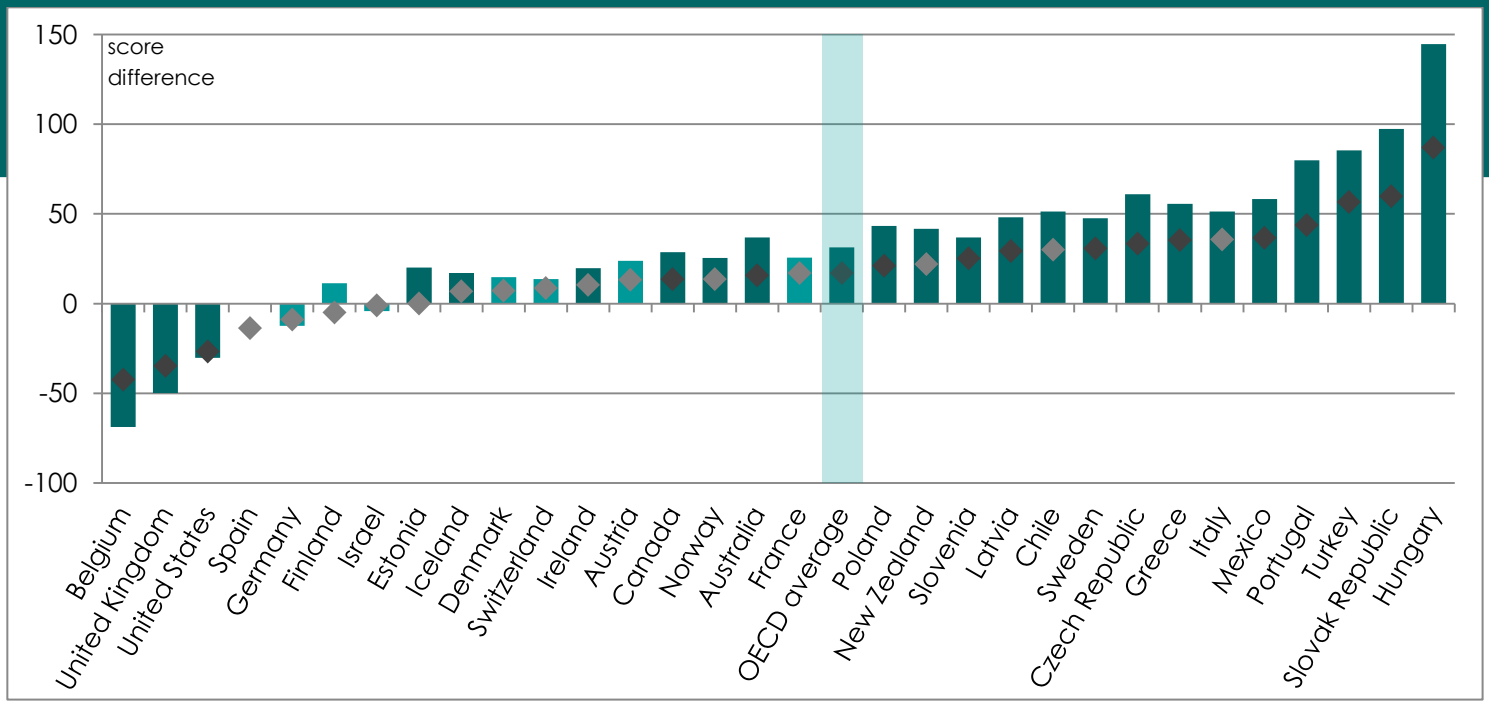
Providing access to quality education in rural areas is crucial to meet the needs of rural youth and also to attract young families to settle in these regions. For adults, changing economic landscapes (for example, a move away from agriculture towards eco-tourism) can potentially require reskilling to equip individuals with appropriate skills and help match the needs of the local labour market with the residents of the area.

Urban-rural skills gap

Urban students outperform rural ones on average by the equivalent of one year of schooling across OECD countries

Students in large cities score 31 points higher on average in science than their peers in small towns on the most recent OECD's Programme for International Student Assessment (PISA). The urban-rural gap persists in many countries even after accounting for students' socioeconomic and cultural background (Figure 2).

Figure 2: Urban-rural variation of students' performance in science accounting by socioeconomic status, 2015



Note: In PISA, schools located in towns of 3 000 inhabitants or less are defined as rural while urban ones refer to cities with 100 000 inhabitants or more. Score-point differences that are statistically significant are marked in a darker tone.

Source: PISA 2015 database.

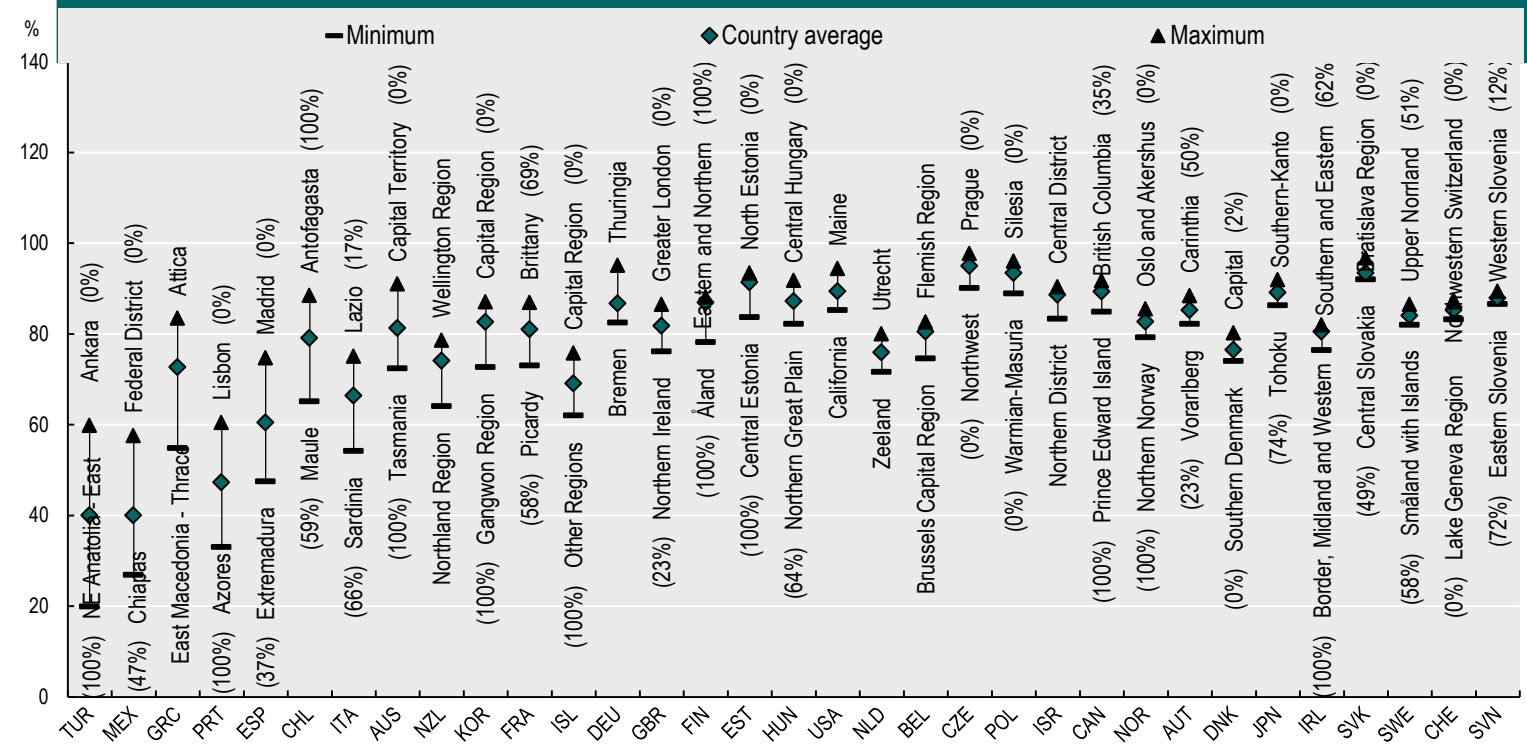
The rural disadvantage can be observed in countries such as Hungary, the Slovak Republic and Turkey, with differences larger than 50 score points after accounting for students' background. Exceptions to this trend are Belgium, the United Kingdom and the USA, where students in rural schools do better on average than their counterparts in larger towns and cities.

Education and skills supply in rural economies

In addition to student achievement, there are also differences in individuals' educational attainment (the highest degree of education an individual has completed) across OECD countries between rural and urban regions. This is important as lower levels of skills supply in the labour force can hinder regions' productivity and innovation potential (OECD, 2016b). Access to educational opportunities in rural regions, particularly remote rural regions, is a key to enhancing human capital and ensuring that rural firms can find the skills they seek.

Figure 3 shows regional differences in education attainment within OECD countries. In 7 countries, the variation is larger than 20 percentage points, and above 30 in Mexico and Turkey, in which less than 40% of the labour force had at least an upper secondary education in 2014 (OECD, 2016b). Figure 3 also identifies the regions with higher and lower attainment in each country and the percentage of rural population living within them. Regions with lowest and highest education attainment are mostly rural and urban, respectively, for the majority of countries with data on regional population composition available.

Figure 3: Percent of regional variation in the workforce with at least secondary education, 2014



Source: OECD (2016b), *OECD Regions at a Glance 2016*, OECD publishing, Paris, http://dx.doi.org/10.1787/reg_glance-2016-en. OECD (2017b).

Delivering entrepreneurship education in schools might contribute to enhancing skills and economic innovation. This relates to adult education, as upskilling and reskilling are essential issues for bridging gaps between skills supply and demand, and critical elements of regional strategies for smart and sustainable development.

The rural school

Rural schools are usually smaller and have lower student-teacher ratios than urban schools. They are also more likely to have a less socio-economically advantaged student body, experience staff shortages and have a lower proportion of qualified teachers (OECD, 2013b). Differences between rural and urban schools can have both negative and positive implications.

On the one hand, smaller rural schools may facilitate a climate of stronger cooperation and sense of belonging to the school. According to PISA 2015, teachers in rural schools support students in their learning more frequently than teachers in urban schools (OECD, 2016a). On the other hand, larger schools might be in a better position to offer more curricular and extra-curricular options to meet a diverse range of interests and needs, as they benefit from economies of scale (size-related cost advantages).



Offering out-of-school opportunities and broader curricula matters for smaller rural schools. They allow schools to retain students, who otherwise might drop out or move to larger urban schools. This could be the case for gifted or special education pupils in particular. The provision of teaching from sources outside the school, sharing study units among schools and the use of community resources for curriculum support can strengthen educational services regardless of school size.

Multi-grade classrooms

As rural schools usually have a small number of students, they often employ grouping procedures that combine students at different year levels to make more efficient use of staff and instruction time. In such multi-grade classrooms, teachers cannot be everywhere or with each student simultaneously, although this does not necessarily mean they provide less effective instruction. In fact, research does not suggest that students in multi-grade classrooms develop better or worse levels of cognitive and non-cognitive skills than those in classrooms grouped by age (Ares Abalde, 2014). By their nature, open peer-learning activities suit multi-grade learning environments particularly well. When these are well-planned, they can have positive effects on learning. One-to-one schemes are an example of peer learning activities that have very positive results on students' performance. They

have proven to be particularly effective in primary education and on reading skills when well-structured patterns of content and work procedures are in place, and when the tutor is older than the tutee (Education Endowment Foundation, 2016).

Size and efficiency

In a context of shrinking public budgets and improvements in transportation systems, consolidation of rural schools (closing or merging schools) becomes more cost-effective for educational authorities. Larger schools can optimise their facilities, equipment and resources by spreading the fixed costs over a larger student body.

However, closures also increase transportation costs, especially in sparsely populated areas. Higher transportation time or a lack of good transportation may negatively impact students' lives by increasing fatigue, reducing attentiveness in class, or impacting family life and children's out-of-school time (Bard et al., 2006; Howley, Howley and Shamblen, 2001). Moreover, school consolidation can also impact the vitality of communities, as schools provide spaces for social and cultural interaction and thus contribute to social cohesion and local economy (Autti and Hyry-Beihammer, 2014).

School closures and community revitalisation in Óbidos (Portugal)

By the late 1980s, many of the more isolated rural schools in Portugal were badly founded and performing poorly. This caused a shift in the governmental approach of expanding rural schooling, which had been in place since the mid-twentieth century. Portuguese authorities started, first, a policy of consolidation of schools with less than 10 students, and schools with less than 21 after 2010.

During the 1990s, responsibility for education was transferred from the central to the municipal level. The municipality of Óbidos, in line with national policy, started closing some of its primary schools. In a process agreed with local stakeholders, it transferred students to other schools and ensured transportation and family support services, while at the same time heavily invested into three new innovative education complexes. The new facilities count with good infrastructure, materials and staff, and provide both primary and secondary education. Conceived as community spaces, offer with culture, leisure and sports activities besides academic ones. Enrolments in Óbidos have increased from 1287 students in 2002 to over 2000 students in 2010.

Source: Gordinho (2012).

More information: http://escolasdobidos.com/

Consolidation of rural schools has been a common response to declining student rolls, yet it is indeed a sensitive issue for local communities. As such, some systems as England, Quebec (Canada), and Scotland make use of local consultation processes to inform school consolidation. Involvement of local stakeholders allows a careful assessment of potential viable alternatives, and an open discussion of concerns of parents and communities. This might make decision-making slower and more complicated, but leads to decisions that better balance economic, ecological and social concerns which benefit from higher support of the local population (Ares Abalde, 2014).

In very remote regions with a scattered population, consolidation might not be an option as student (and teacher) transport time increases too dramatically. In such cases schools can share equipment, facilities and staff, such as administrative personnel, teachers of

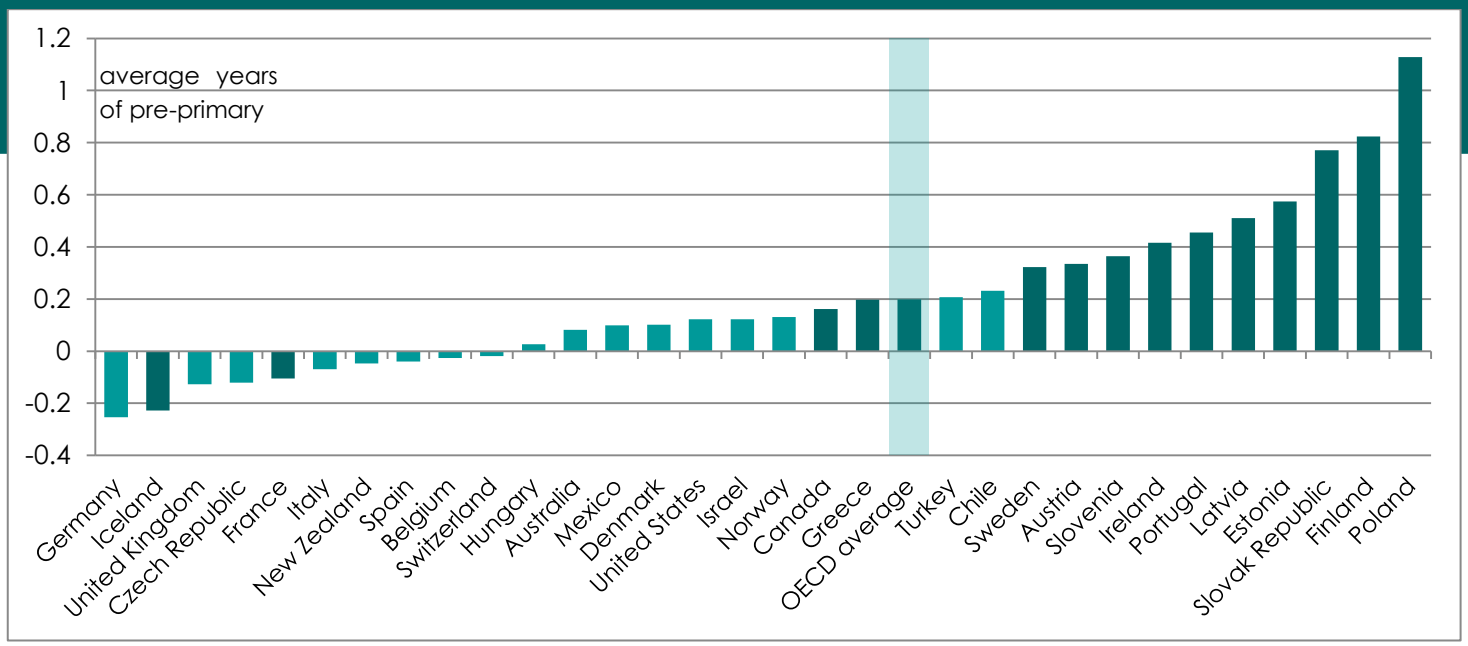
School clustering and integrated management arrangements have been applied as alternatives to rural schools' consolidation

specialised subjects or personnel taking care of special needs students (Howley et al., 2012). The effectiveness of these measures, however, relies on guaranteeing appropriate funding, effective and qualified leaders, certain organisational and administrative autonomy, a well-designed and efficient coordination structure as well as clearly outlined functions and responsibilities (Matthews et al., 2009).

Access to early childhood education

Early school experiences provide a foundation for later learning. However, enrolment in pre-primary education is generally lower in rural than in urban areas across PISA participating countries (OECD, 2016a). This is particularly the case of indigenous students in countries such as Australia, Canada and New Zealand. Besides having lower participation rates in early childhood education, they also tend to have a later school start and leave at an earlier age than other students (OECD, Forthcoming).

Figure 4: Urban-rural variation in children access to pre-primary education, 2015



Note: Statistically significant differences are marked in a darker tone.

Source: PISA 2015 database.

Figure 4 shows the differential in years of enrolment in pre-primary education along the rural-urban continuum in OECD countries. In countries such as Estonia, Finland, and Slovakia, attendance in early childhood education programmes is more than half a year lower on average for rural students than for those in urban areas. In Poland, the average difference is above one year. In contrast, rural children are significantly more likely to attend pre-primary than their urban counterparts in Iceland and France.

Nevertheless, the benefits of access to early childhood education are conditional on the quality of the education offered. Clear pre-primary education goals, curriculum and quality standards, investment in physical and human capital, family and community involvement as well as monitoring and evaluation tools are important elements to make sure all children have access to quality early educational experiences regardless of their place of residence (OECD, 2012).

ICT and distance education

In contexts of significant geographical isolation, distance education can be an important element of rural schooling. Distance education services are not new, but advances in videoconference, podcasting, interactive television, e-learning platforms, teaching tablets, modular coursework, self-directed learning and flipped classroom strategies can enrich curriculum opportunities in remote schooling, and help to overcome the difficulties of providing specialised courses when the supply of qualified teachers is scarce.

Distance learning technologies can be as effective as traditional face-to-face methods, as long as they are delivered well. Three elements make a difference: 1) instructional effectiveness; 2) instructor training and conformability with the technology used; and 3) student support provided, either in person or virtually (Hobbs, 2004). Effective learning largely depends on the capacity of distance learning settings to create the conditions for student-content, student-instructor and peer-to-peer interactions (Abrami et al., 2011).

Flipped learning in rural Colorado (U.S.)

Flipped classrooms were introduced in Woodland Park High School, Colorado, in 2006. The teachers, Bergman and Sams, began capturing their lessons on video. Students could watch the lessons through DVDs at home regardless of whether they had high-speed internet connection.

This allowed students who were unable to understand the lessons the first time to review them as many times as needed to fully grasp the material without worrying about holding back the class, or appearing slow. Additionally, as lessons took place at home, the class became the place in which students shared their struggles and received attention from teachers and peers to address individual learning needs.

Today, more and more teachers use online videos and podcasts to teach outside of class time. The *Flipped Learning Global Initiative* is just one example of how such practices are quickly spreading worldwide.

More information: http://flippedlearning.org/

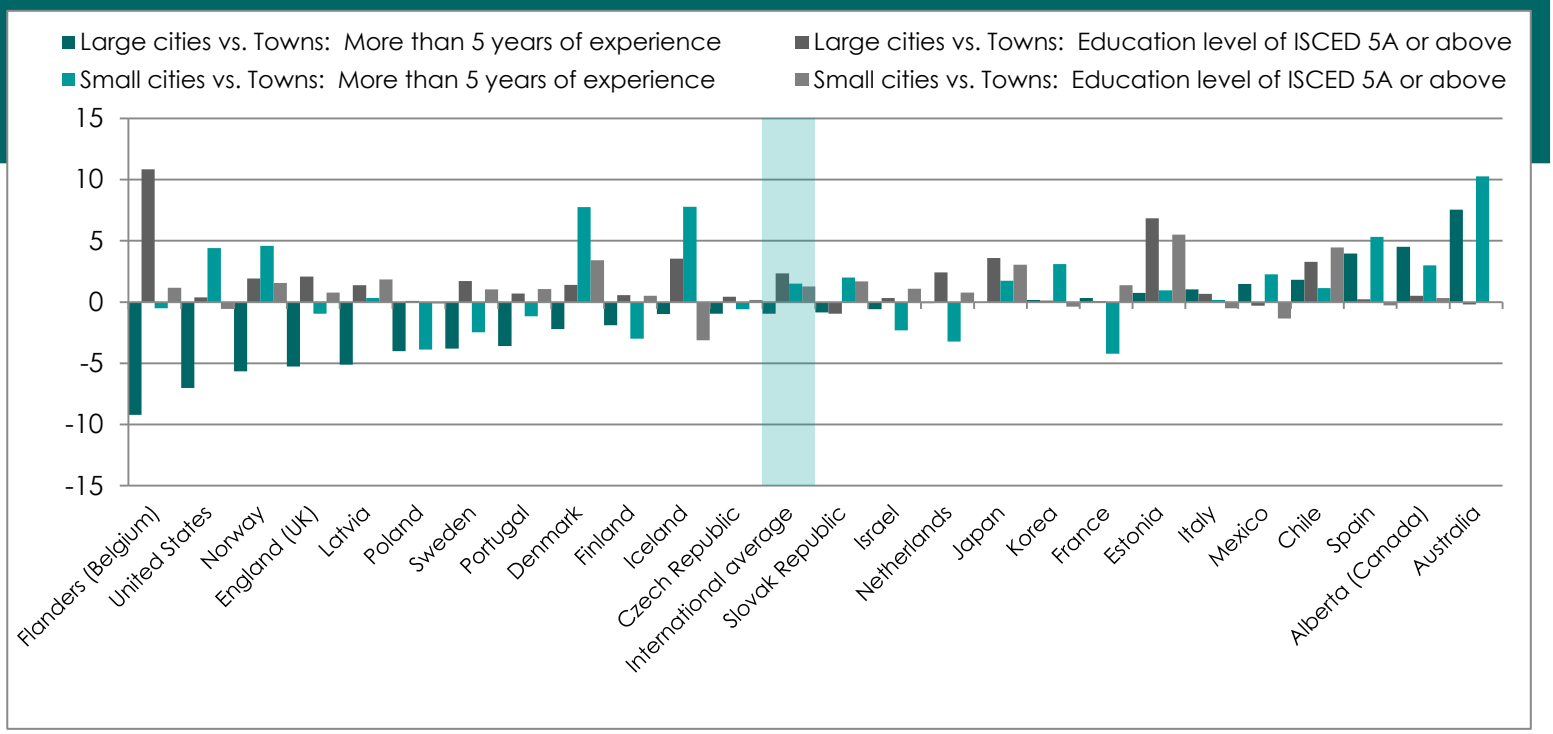
The Internet has the potential to become a vehicle for eliminating the disadvantage of vast distances. It is widely available: on average, above 80% of households across the OECD have Internet access, from a high of 99% in Korea to a low of 35% in Mexico (OECD, 2017a). However, many children in remote locations remain unconnected. In these cases, unreliable power sources, poor telecommunications infrastructure, or high prices resulting from the cost of providing the service, prevent those who would benefit the most from accessing Internet-based distance learning solutions.

Teaching in rural areas

Challenges for rural schools include staffing, school organisation and teacher preparation and turnover. These obstacles further relate to teachers and their families' living circumstances, their relationships within the community, the professional tasks assigned to them and their access to professional support.

On average, teachers with higher levels of education and more years of teaching experience are less likely to work in towns with 15 000 or fewer inhabitants than other locations (small cities with in-between 15 000 and 100 000 inhabitants or larger ones with above 100 000) (OECD, 2014, see Figure 5 below). This is especially pronounced in Australia, Alberta (Canada) and Spain. In contrast, in Flanders (Belgium) and the United States, teachers with more experience were actually more likely to teach in towns than large cities on average, although the urban advantage was still evident for those with higher education levels (OECD, 2014).

Figure 5. Urban-rural variation of teachers' experience and qualification in TALIS



Note: Data from the United States are not included in the calculations for the international average. This is because the United States did not meet the international standards for participation rates

Source: TALIS 2013 Database.

Teacher stability is important: high levels of teacher turnover can negatively affect students' performance (Ronfeldt, Loeb, and Wyckoff, 2013). They may generate disruptive effects on staff and community cohesion, changes in the distribution of teacher experience, discontinuities in the curriculum taught, such as gaps in or repetition of content, or less effective attention to individual student needs.

Attracting and supporting teachers in rural areas

Successful adjustment to rural teaching requires preparation, induction into rural living and teaching and ongoing support. Pre-service education must prepare teacher candidates for teaching and living in rural and remote areas. First, given that the appreciation of lifestyle and community spirit of rural settlements is an important element for retaining teachers (Lyons, 2009), pre-service teacher education could provide practical experience in rural communities to help deepen knowledge and appreciation of these contexts. Practicums that highlight rural teachers' positive experiences and combine school, community, and university structures to support successful professional experiences are a potential pathway to more sustained rural appointments (Kline, White and Lock, 2013).

Teachers may feel ill-equipped or be reluctant to live in rural areas; they might perceive a lack of proper support from educational authorities or have a preference for living closer to the city.

Second, pre-service teachers must develop effective skills for teaching in rural environments. Multi-grade classrooms, for example, require teachers to have good organisational skills and be able to balance the various demands of their diverse learners. Education authorities and stakeholders must make sure training and support for multi-grade teachers as well as specific school plans, instructional materials and methodological guidelines are available. The Renewing Rural and Regional Teacher Education Curriculum project in Australia is an example of this (White and Kline, 2012).

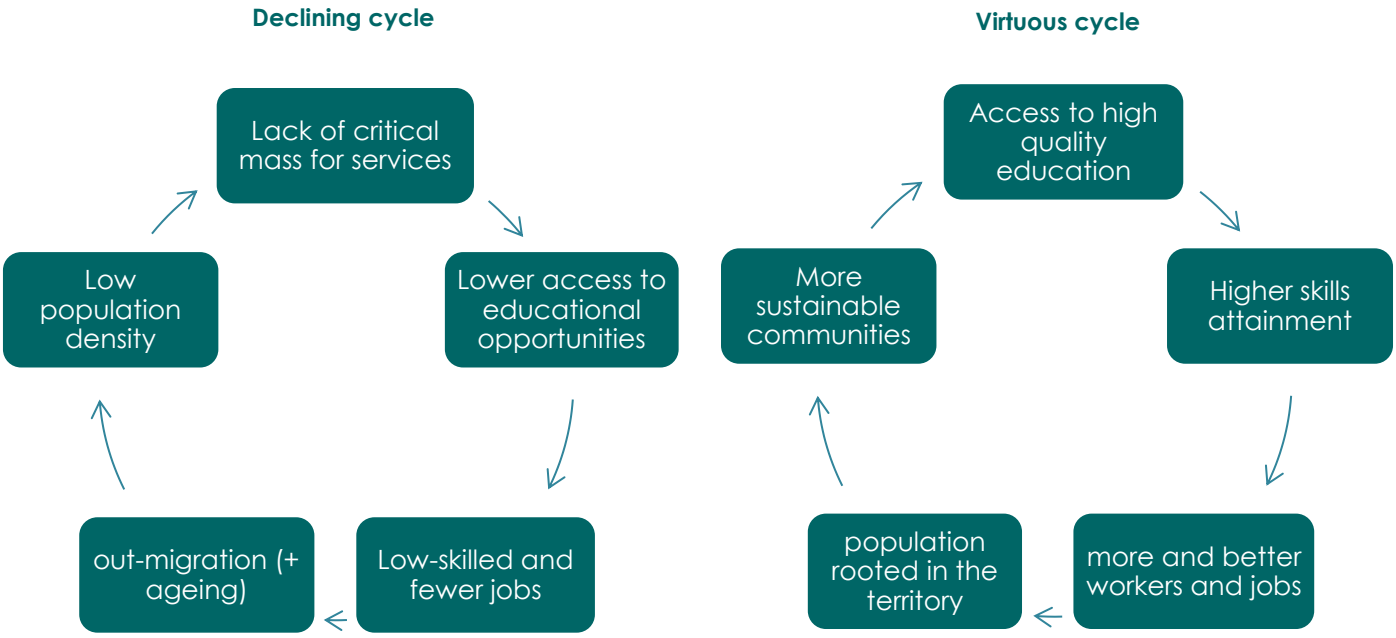
Support must also continue once the teacher is in the classroom. Strategies for rural teacher in-service education can include schools and teachers coming together as communities of practice (Rossi and Sirna, 2008) and relying on new technologies such as videoconferencing systems (Broadley, Boyd and Terry, 2009) to overcome the problems of teaching in isolated areas. Community members as well as retired teachers (Goddard and Habermann, 2001) can also play a role in supporting new staff and their families in their new environment.



Other incentives might help attract teachers to rural posts. In Queensland and New South Wales (Australia), for example, locality allowances, additional vacation time, housing subsidies, and transfer entitlements in return for continuing in a remote appointment for longer than the average time expected are all used.

Towards the future

Education is a key to individual and community development. Access to high quality education is a right for every child and a cornerstone for social and economic sustainability. A vicious cycle of decline in rural regions has been defined elsewhere (OECD, 2006). Education can play a role in turning this into a virtuous cycle.



Note: Declining cycle adapted from OECD (2006).

Questions for future thinking

1. What kind of skills should rural schools develop to meet the demand of regional labour markets of the future? Is there a trade-off between matching regional skills needs and developing high-talent individuals?

2. What would regional skill needs look like if the automation of jobs increases dramatically in the coming years? What would that mean for the infrastructure, resources and human capital needs of schools?

3. What if a combination of improvements in transportation and communication, increased work flexibility and leisure time, and high levels of pollution, mobility problems and increasing urban gentrification were to renew interest in rural life? What kinds of skills would we need in such a future *rurality*? A return to artisanal craftwork, perhaps?

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