

Policy Brief

Rural NEET Youth Network

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Challenges Associated with Formal Education in Rural Areas



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Recommendation Summary

EARLY SCHOOL LEAVING

Compensation – accessibility and relevance of the 2 chance program; flexibility in educational programs, support for young people and staff (teachers, school counselors, social workers, etc.) working with young people at risk of early school leaving;

Intervention – needs-based measures – individual, family, community – cooperation between authorities (local, regional, national), support programs developed in school (after-school program);

Prevention – equal access to quality education, educational integration of vulnerable categories (minorities, migrants, young people with special needs), elimination of tests with the effect of early selection.



SCHOOL TO WORK TRANSITION

Improve the quality of teaching and stimulate more people to attain higher levels of education;

Reforming the curricula introducing new skills, especially of digital type, strongly required in the labor market, a professional path of education which creates a privileged way to a technical profession;

Introducing more active than passive labor policies aimed at creating opportunities for training and job experience may help young people to reduce the relative disadvantage with their adult peers.



SECOND CHANCE – RETURN TO EDUCATION PROGRAMMES

Identify and disseminate models of effective practice for vulnerable groups such as NEETs, minorities, migrants, young from rural areas, youth with disabilities, teenage mothers and care leavers, etc;

Develop more flexibility in training types and programmes;

Financial support for young people at risk;

Application of innovative and accessible learning methods to attract youth and motivate participatory approach.



INITIAL AND CONTINUING TEACHER EDUCATION

Training teachers to enhance their capacity to teach across a range of settings such as urban and rural location where the challenges experienced by students are often particular to the geographical location of the educational setting;

Launch a explicit call within the Erasmus+ Teacher Academy Programme that focuses on supporting teachers to practice across diverse geographic locations would provide an excellent starting point to build the required support.



DIGITAL OPPORTUNITIES IN FORMAL EDUCATION

Develop tailor-made program to increase youth digital skills;

Develop tailor-made programs to increase teacher digital skills; Facilitate collaboration between actors to identify gaps and needs for specific locations;

Develop cybersecurity programmes in order to prevent and raise awareness to fake news and promoting safe internet use: instruments to protect against risks that may occur when using the Internet and have information on how to use them.



Introduction

The youth demographic in rural areas continues to experience a global decline despite significant efforts from both national and international organisations to downturn this negative trend. Such efforts aim to create conditions for learning as well as opportunities that can enable young people to develop knowledge, skills, and competencies. Despite the economic recovery trends of recent years (before the COVID-19 pandemic), young people continue to be particularly vulnerable and especially during times of crisis.

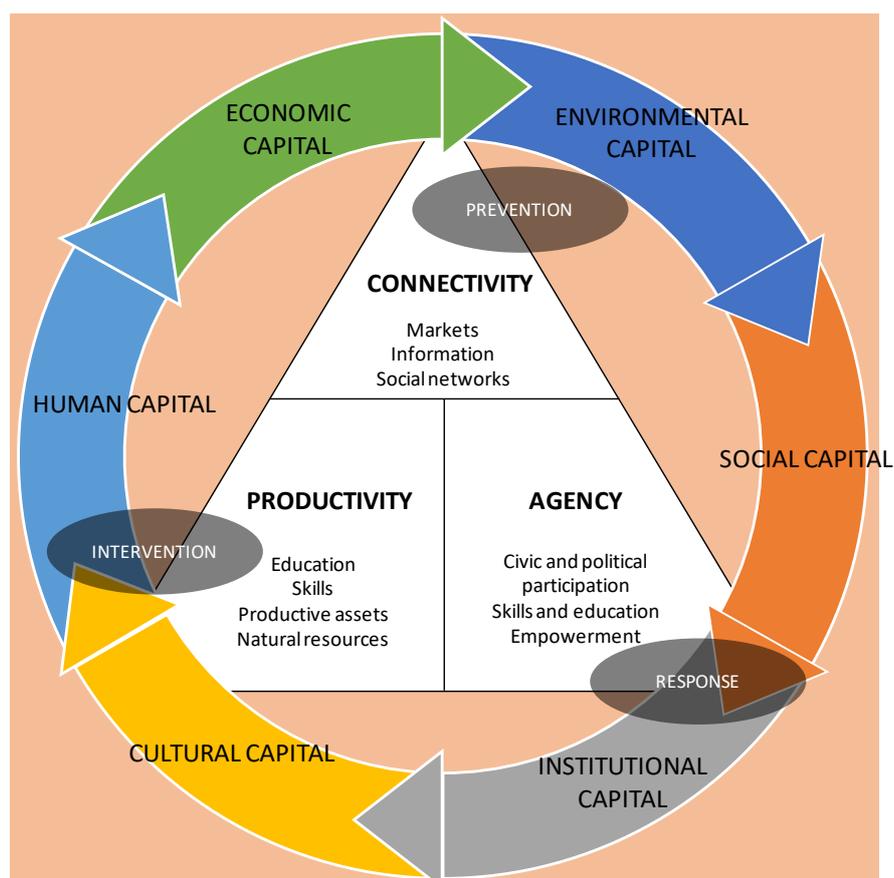
Youth disengagement from the labour market can lead to economic loss, demotivation, marginalisation, and be reflected in challenges such as a lack of qualifications, health issues, poverty, and other forms of social exclusion. To address such challenges, it is vital that a detailed understanding of youth needs is developed. This work should be based on heterogeneous characteristics (personal vs institutional) that include (although not limited to) socio-economic, demographic, financial, technical, and institutional perspectives. This information should subsequently inform both future policy-making and decision-making processes.

Previous research has already identified some problems related to the rural (suburban) regions. Common findings include: higher travel; communication and training costs; costly or inadequate services; lack of quality teachers; limited educational, training, social and economic opportunities; and an abundance of social capital. Such conditions clearly have an impact on youth development, where:

- The share of young people aged 15–29 neither in employment nor in education or training (NEETs) are significantly higher, for example, in rural areas (in Europe, in 2019 12.6% of youth NEETs aged 15–29);
- The rate of male early leavers tends to be higher than women (12% for men, and 8,1% for women) and where there is a higher incidence of early leavers among young people in rural areas (10.5%) and suburbs (11.2%) compared to those in cities (8.7%);
- More females tend to enrol in general education programmes. Also, in rural areas within the youth population, those progressing to higher education that are aged 30 to 34 is only 29.4% despite a target of 40% set up by the EU Strategy compared to urban youth where this rate is 51.6%;
- Internet connections and usage of the internet increases this is hampered by the rate of availability and adoption of digital equipment in rural areas. In addition, 33% of 13 to 14 years old did not have a high proficiency level in digital competencies, with 20% of young people aged 16 to 24 in the EU lacking basic digital skills.

In order to address the aforementioned and other issues associated with youth development, a new form of partnership based on trust, collaborative working relationships between schools, sports clubs, art centres, museums, health centres need to be established and promoted. A common goal is required that seeks to maintain thriving rural communities, reduce segregation, improve the quality of life in rural areas, and transform regions towards a more sustainable one. This new form of partnership and process of developing new rural policies is based on creating an enabling environment through the (i) connection of markets, social networks, and information, (ii) civic, political participation, skills and (iii) education and empowerment, and general productivity. This Policy Brief takes a closer look at the issues raised above and makes a number of recommendations that can inform the development of the Youth-Centred Rural Transition Model (Figure 1) as a consequence of helping to shape policy and empower decision making that will make a difference to the everyday lives of Rural NEETs.

Figure 1. The role of youth-centered rural transformation



Youth Policy

Youth policy by public authorities implements a strategy that aims to create conditions for learning, opportunities-focused and experiences that can enable young people to develop knowledge, skills, and competences as important for access to rights as actors of democracy, support their successful social integration and enable them active role in civil society and transition from education to the labour market. The key measures of youth policies are to promote citizenship learning and the integrated policy approach.

The Youth Guarantee is a scheme to promote the employment of young people in the European Union (EU), set up by the European Commission. By adopting the Youth Guarantee measures, each EU country guarantees that young people will be provided with employment (including traineeships), on-the-job training, inclusion in formal education, or other training within four months of registering as unemployed (Figure 2).



Youth policy aims to assure minimum human rights and democratic standards and principles of cooperation focusing on target groups and stakeholders with scope for areas of intervention with necessary budgets related to different policy measures. There are public authorities at European, national, and local levels working with actors involved in informing, developing, implementing youth policy, interest groups and stakeholder's public, private and NGOs in the areas of youth, education, employment, social work, media and similar. As a dynamic process is adjusting with systems and structures over time.

Each EU country has own strategy and youth policy with possible consideration and targeting of country's specificities and its local problems in youth education, employment, training, and other areas of transition from education to employment, social exclusion and similar that affect young people. Therefore, youth policy in Europe between countries can vary depending on government objectives regarding young people, including social protection, gender equality, unemployment, formal education, health, housing, and so. Other youth policies are much narrower in scope.

Therefore, it is important to assure accurate and reliable data collection, particularly considering the problem of hidden NEETs, which can vary considerably between European countries. Another problem can be early living from schools which can be different between urban and rural areas with often more severe problems in rural areas. It is also important valuation of non-formal education and learning and youth work experiences. Higher unemployment between young and particularly the first job seekers can be another problem that can be of different importance at local levels, between rural and urban areas, and between European countries that can be related to different kinds of migration. Among methodological approaches the importance is given to a cross-sectoral approach with a need for dialogue with young people.



The scheme consists of 15 measures to facilitate the transition from education to employment, which provide young people with greater employability and active entry into the labor market. The system should ensure that all young people up to the age of 25 receive a quality offer for improving the transition from education to employment, faster activation of the young unemployed, reducing the number of unemployed, and increasing the number of apprenticeships or traineeships.



Involving rural youth in preparation of youth policy and life decision-making is a rather complex task due to difficulties in participating in decision-making and governance. There can be also problem of a lack of resources at raising awareness and asymmetric information problems for proactive participation in decision-making with impact on the lives of rural youth. Among them are pros and cons factors that can be the barriers affecting rural youths' opportunities to participate in their local, regional, national, and international democratic life that rural youth struggle with and highlighting the ways the rural communities have overcome and are working on overcoming their limitations with initiatives and policies related to rural lives.



Each EU country should introduce and implement a youth guarantee system in close cooperation with employers, employment services, education and training institutions and youth assistance services. It should provide young people with full access to information on available services and support. In practice, this means that the jobseeker discusses in detail personal wishes, goals, and experiences with its counselor at the Employment Service and together prepares a further plan as a step closer to the desired job.



1. General Trends

1.1. Decrease of Youth Students/Pupils

The process of transition to adult life it's a long and hard path where social and economic capital are crucial and may determine the success in school trajectories (Thomson, 2010). The economic and financial crisis that hit Europe from 2008 onwards has made this transition to adulthood even more complex, putting young people at greater risk of exclusion from the employment market. Despite the economic recovery trends of recent years, young people continue to be particularly vulnerable to adverse conditions and will be even more vulnerable to the effects of the Covid19 pandemic crisis (Ferreira & Vieira, 2020).

In order to map the patterns of formal education, first we will analyse the evolution of trends of early leavers from education and training, and later, analyse the proportion of young people enrolled in education, by education level.

1.2. Early Leavers from Education and Training

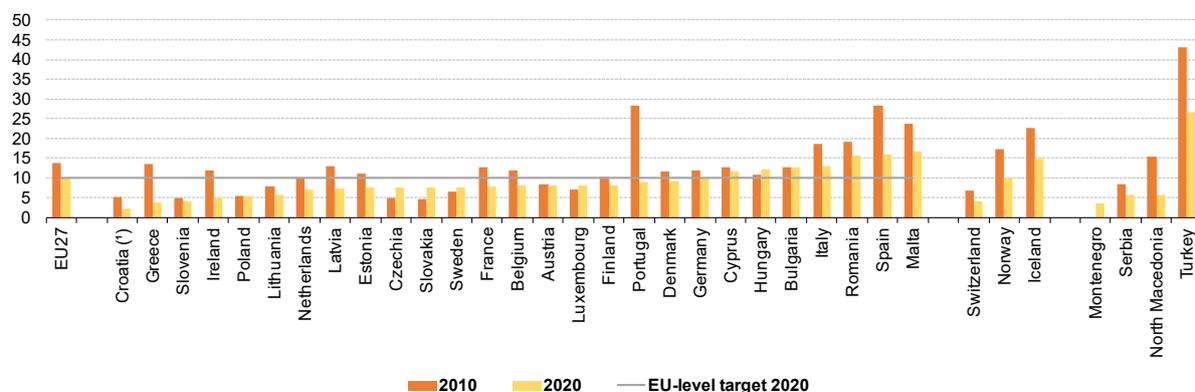
Education policy in the EU seeks to ensure that all people have the skills and capabilities to have an easier and more successful transition from education to work. Under the Europe 2020 Strategy, from the period 2010–2020, the target of reducing the early school leaving rate (ESL¹) to 10% by 2020 was projected.

In the last decade, the share of early leavers from education and training has gradually declined across the EU27.

In 2020, the proportion of early leavers from education and training was 9.9%, 0.1 p.p. lower than the benchmark of 10% set for 2020 by the EU strategy (Figure 3).

¹ share of individuals aged 18–24 years who have at most a lower secondary level of educational attainment (ISCED levels 0–2) and who were not engaged in any further education and training (during the 4 weeks preceding the EU labour force survey).

Figure 3. Early leavers from education and training, 2010 and 2020 (% of population aged 18-24)



Source: Eurostat (edat_ifse_14). Note: break in time series. (*) 2020: Low reliability

In the last decade (2010–2020) there was a continuous decrease in the early leavers rate in the EU27, who felt 3.9 percentage points between 2010 and 2020. This continuous reduction is associated with the increase of compulsory education. For example, Portugal, whose compulsory education raised to 12 years of schooling in 2009, registered one of the largest reductions in the last decades in the EU27– 34.8 percentage points between 2000 (43.7%) and 2020 (8.9%).

Although the achievement of this goal, in 2020 some countries still have rates significantly above 10%, this is the case of Italy (13.1%), Romania (15.6%), Spain (16%) and Malta (16.7%). Amongst the non-members countries, Iceland (14.8%) and Turkey (26.7%) have the highest rates, although the significantly recovery of Turkey, with a decrease of 16.4 percentage points in one decade.

The share of early leavers in the EU27 tends to be higher among young men than among young women, reaching 12%, 3.9 percentage points higher than the share among young women. This is the pattern in the majority EU27 member states, with exception of Czechia (men–7.5%, women–7.6%) and Romania (men–14.7%, women–16.6%), with higher rates amongst women. In the non-members states the exception is North Macedonia (men–5.7%, women–5.8%) and Serbia (men–5.4%, women–5.8%).



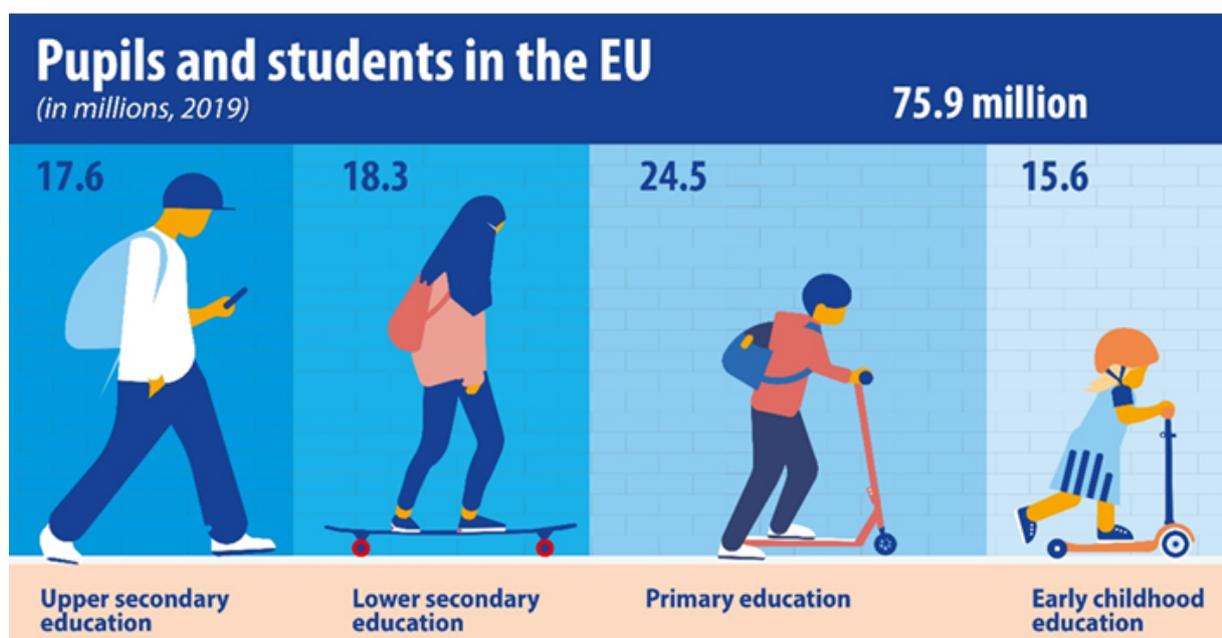
Within the new strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021–2030) was defined the goal have less than 9% of ELS by 2030.



1.3. Upper Secondary Education – Enrolled Students

In EU member states, school attendance is compulsory at least for primary ISCED 1 and lower secondary education ISCED 2 and can then progress to upper secondary education (ISCED level 3), where they must make choices on their favourite scientific area. This degree of education typically ends when students are 17/18 years old and after students can continue their studies on tertiary education (ISCED 5–8).

Figure 4. Pupils and students in the EU



Source: Eurostat (educ_uoe_enra02)

The most recent data, show data in 2019 18.3 million students were enrolled in lower secondary education and 17.6 million in upper secondary education (Figure 4).

From the 17.6 million students enrolled in upper secondary education, 51.6% are enrolled in general education and the remaining are enrolled in vocational education programmes, with a more technical and practical nature than general education.

In Ireland and Greece, most students follow general education programmes and pretend to follow tertiary education, and in other EU members, like Czechia and Finland students prefer to follow vocational education programmes.

The choice between the two types of educational programmes can be attributed to the availability and perceptions concerning general and/or vocational education in each EU member state.

A gender analysis could also show that girls tend to be more enrolled in general education programmes. Data from 2019 shows that 58.4% of female students were enrolled in general education programmes, in contrast to 45% of the male students, which also reinforces the increased number of female students enrolled in tertiary education.

1.4. Decrease of Youth Students in Rural Settings

Although some constraints are transversal to all young people, the impact and prevalence of these constraints differ according to the territorial contexts in which they live. Being a young person in rural areas means, from the start, having fewer educational, training, social and economic resources, and being at risk or in a situation of poverty resulting from this persistent and often generationally reproduced disadvantage (Corbett, 2013; Shucksmith, 2004; Rönnlund, 2020).

An analysis by degree of urbanization² reveals that, in 2020, there is a higher incidence of early leavers from education and training among young people in rural areas (10.5%) and suburbs (11.2%), compared to those in cities (8.7%), the only territorial context that has already reached the target proposed by the 2020 Strategy (Figure 5).

In some EU27 member states, the difference between rural areas and cities is significantly high, in Bulgaria (19.9 p.p.), Romania (18.8 p.p.), Hungary (14.1%), Slovakia (8.2%), and Lithuania (6.2%). Some countries reveal an opposite pattern, with the highest early leavers rates in cities, namely in Belgium (2.9 percentage points higher) and in Austria (5.4 percentage points higher). Among the non-member EU countries, Switzerland reports the lowest shares of early leavers in rural areas (1.4 p.p. lowest) and in Iceland, the early leavers rates are significantly higher in rural areas (7.7 p.p. higher).

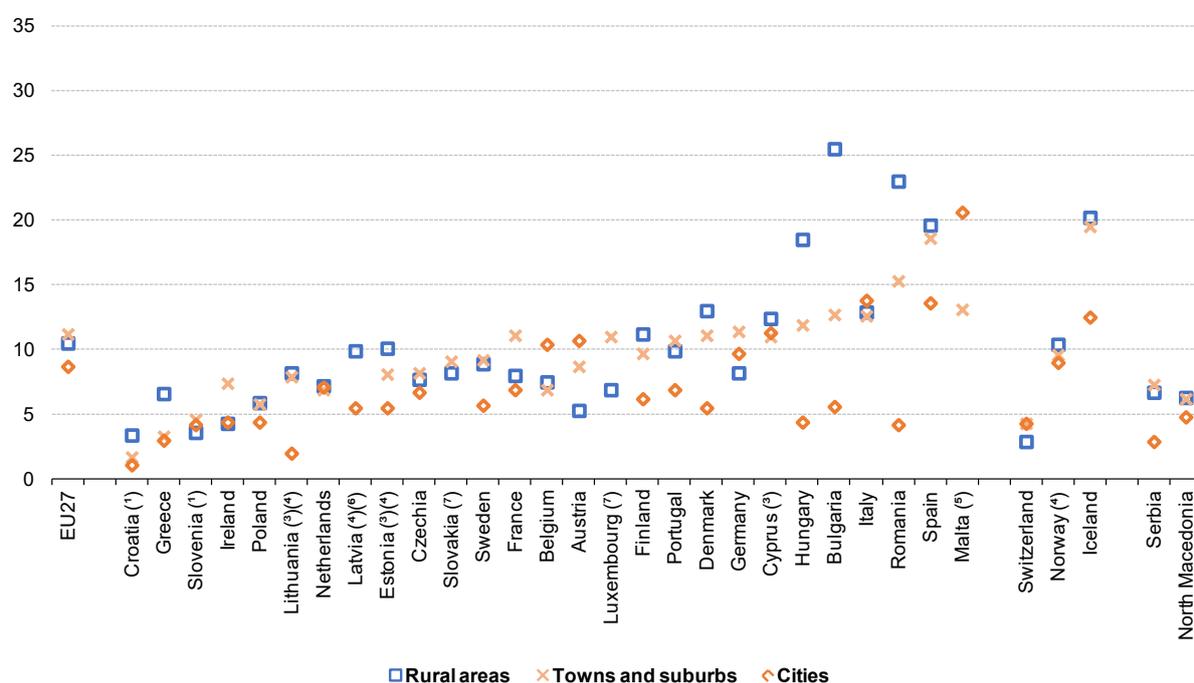


Being a young person in rural areas is a double challenge that puts young people at greater risk of social exclusion, as they have more limited education, training, and employment opportunities than those who live in urban areas.



² Regions are classified as cities, towns and suburbs, or rural areas, accordingly to Eurostat indicator Degree of urbanisation

Figure 5. Early leavers from education and training by degree of urbanisation, 2020 (% of population aged 18-24)



Note: ranked on overall share of early leavers. Montenegro and Turkey not available.

(1) Low reliability.

(2) Rural areas: low reliability.

(3) Towns and suburbs: low reliability.

(4) Cities: low reliability.

(5) Rural areas: not available due to a very low reliability.

(6) Towns and suburbs: not available due to a very low reliability.

(7) Cities: not available due to a very low reliability.

Source: Eurostat (online data code: edat_lfse_30)

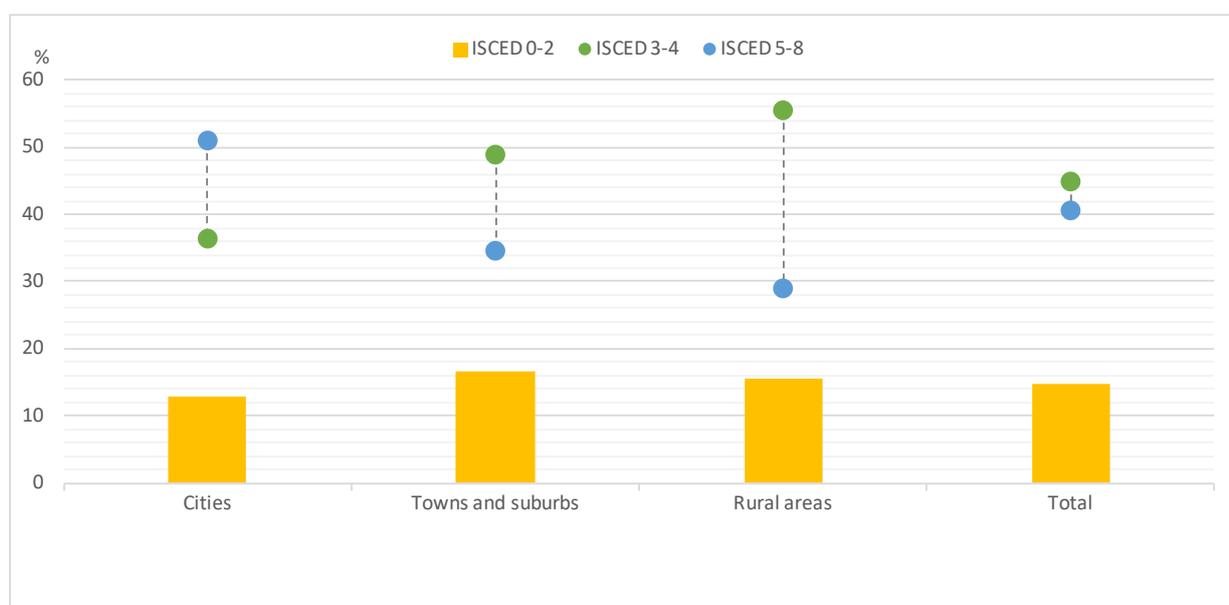
Source: Eurostat (edat_lfse_30)3

3 Note: ranked on overall share of early leavers. Montenegro and Turkey not available. (1) Low reliability; (2) Rural areas: low reliability; (3) Towns and suburbs: low reliability; (4) Cities: low reliability; (5) Rural areas: not available due to a very low reliability; (6) Towns and suburbs: not available due to a very low reliability; (7) Cities: not available due to a very low reliability.

1.5. Enrolment in Education in Rural Areas

In what concerns educational attainment, in 2020 40.5% of young people between 25–34 years old has tertiary education (ISCED 5–8) and 44.8% has secondary education (ISCED 3–4). An analysis of educational attainment by the degree of urbanization reveals that there are significant differences between cities and rural areas. Young people in urban areas have a higher level of education (cities – 50.9% with ISCED 5–8), in contrast to rural areas where there is a lower proportion of young people with higher education (28.9%) and a higher proportion of young people with secondary education (55.4%) and primary education (15.7%) (Figure 6).

Figure 6. Population educational attainment level by age (25–34) and degree of urbanisation 2020 (%).

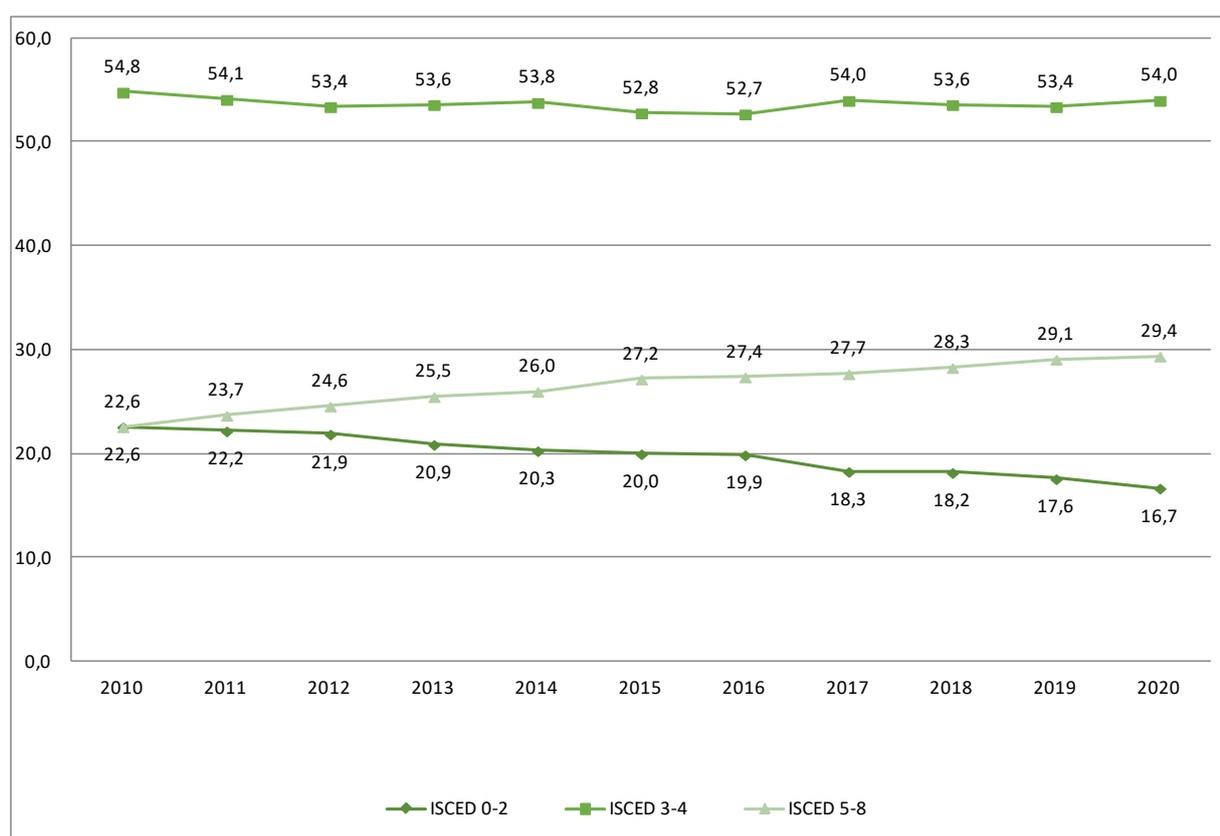


Source: Eurostat (edat_ifs_9913)

Although the data reveal the existence of a profile of young adults living in rural areas with lower levels of education, compared to more urban areas, a longitudinal analysis shows the existence of evolution in this domain. The proportion of young adults with lower education levels (ISCED 0-2) decreased 5,9 p.p. within one decade (from 22.6% in 2010 to 16.7% in 2020). In contrast, the proportion of young people with tertiary education increased 6.8 p.p. (from 22.6% in 2010 to 29.4% in 2020) (Figure 7).

Despite this recovery in the last decade, young people in rural areas are still below the target of 40% of the population aged 30 to 34 with higher education defined under the Europe 2020 Strategy, not exceeding 29.4% in 2020, too far from the percentage reached in the cities (51.6%).

Figure 7. Proportion of young people aged 30 to 34 in rural areas, by level of education, EU27, 2010-2020 (%)



Source: Eurostat (edat_ifs_9913)

Indeed, urban areas tend to be more attractive territories for young people due to the concentration and diversity of services it offers, namely in education, with a larger and more diversified offer of higher education institutions (Vieira & Ferreira, 2019). Young people from rural areas generally tend to have limited educational and professional opportunities compared to young people from other territories and face several barriers that impact their opportunities to continue their educational trajectories. (Ferreira & Vieira, 2020).

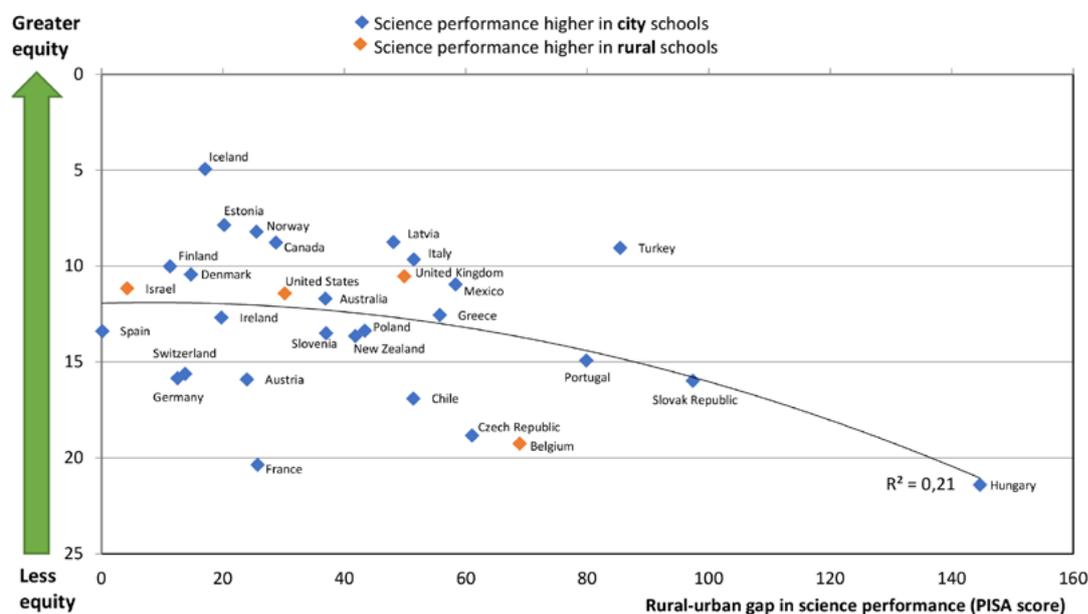
1.6. Formal Education and School to Work Transition in Rural Settings

1.6.1. Provision of Formal Education Opportunities in Rural Europe

As urban centers 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 declines. Quality rural education is important for individual growth and social cohesion as well as regional economic productivity and innovation. 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.

Delivery of education and other services in rural areas presents a series of common features, namely long distances and a lack of critical mass, that affect their price and/or quality negatively (OECD, 2010). Low population density means that rural areas find it more difficult to take advantage of scale economies and network effects, and the long distances increase the travel, communication and training costs (Asthana et al., 2003). As a result, many rural families deal with unavailable, costly or inadequate services, especially in those sectors where government spending is marginal (OECD, 2010). Spatial differences in education quality and outcomes, therefore, touch upon questions of equity and merit an analysis of the factors and conditions in diverse geographical locations that explain these differences. Such analysis can then inform policies and research that is aware of the importance of place (Bæck, 2015). Ensuring that all schools regardless of geographical location achieve high standards may not only support equity but also enhance the performance of the entire education system. As data from the OECD Program for International Student Assessment (PISA) for 2015 reveal, school systems that have been successful in closing the rural-urban gap show a higher academic performance (Figure 8) and equity (Figure 9) (OECD, 2016b). Similarly, previous studies suggest that countries that have closed the rural-urban gap in infrastructure have been more successful in developing economically (OECD, 2016a).

Figure 8. The rural-urban gap and equity in science performance



Source: OECD, PISA 2015 Database

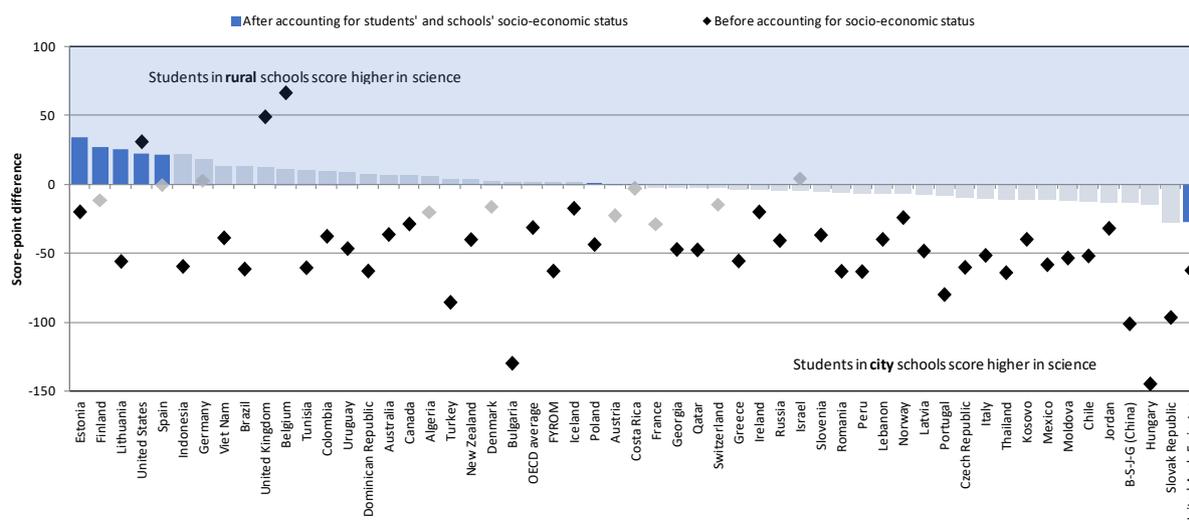
The subsequent sections consider some of the issues typically identified with providing rural education, mainly drawing on research from Anglo-Saxon, Ibero-American and Scandinavian contexts. Based on data from the OECD Program for International Student Assessment (PISA) 2015 and the Teaching and Learning International Survey (TALIS) 2013, we have tried to evaluate to what extent these challenges and opportunities are commonplace across OECD members and partner countries.

The study looks at rural education based on the classification of the OECD's large-scale education assessments and surveys. Accordingly, schools in "a village, hamlet or rural area with fewer than 3 000 people" are considered rural and those in cities (with over 100 000 people) are considered urban (OECD, 2016a). This definition makes no distinction among rural schools, for instance between rural and remote schools. Another aspect to consider is that PISA and TALIS data provide information for 15 years old and lower secondary education respectively. In this regard, the share of students enrolled in rural schools is larger in primary than in secondary education. Yet, some of the features typically associated with rural schools, such as multigrade classrooms, are more frequently observed in primary than in secondary education. PISA 2015 data shows that, on average across OECD countries, students in city schools score 31 score points higher in science than students in rural schools, which is roughly equivalent to one year of schooling (Figure 8). In Bulgaria, Hungary, Portugal, the Slovak Republic and Turkey, the rural gap is of at least 80 score points before accounting for socio-economic status. However, in

Belgium, the United Kingdom and the United States, students in rural schools outperform those in city schools. There is no difference in several countries, including Costa Rica, Germany, Israel and Spain.

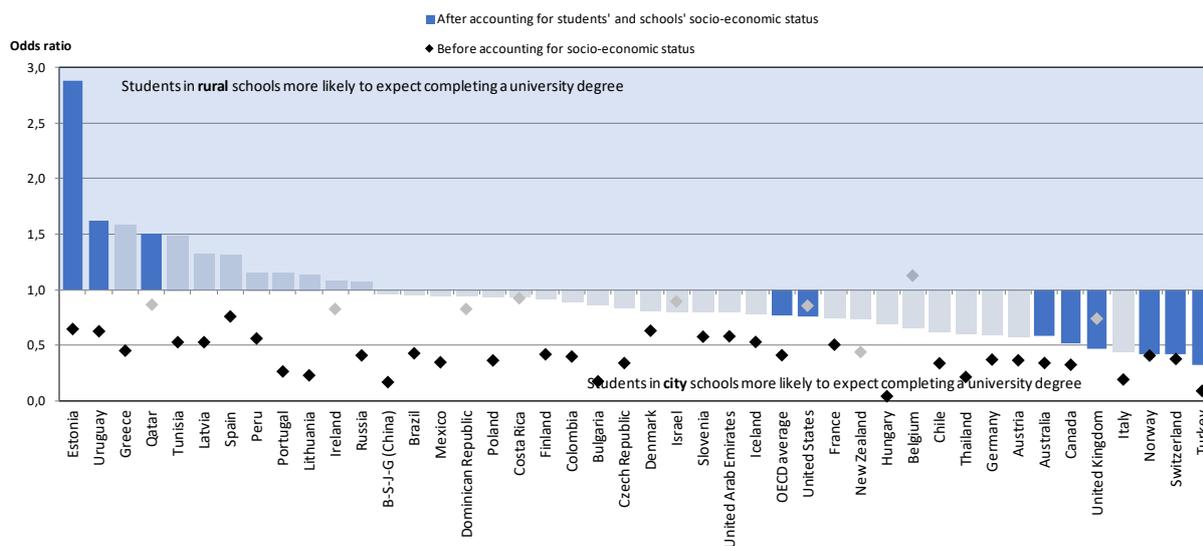
The rural gap is even more visible in students' transitions to higher levels of education and in the educational expectations that precede their decisions to remain in the education system (Ames & Rojas, 2010; Fleming & Grace, 2017; Zarifa, Hango & Pizarro Milian, 2018). PISA 2015 shows that, on average across OECD countries, approximately half of students in city schools expect to complete at least a university degree (ISCED 1997 level 5A and 6), compared to only 30% of students in rural schools (OECD, 2018b). Across OECD countries, the rural gap in educational expectations, before accounting for socio-economic status, is largest in Hungary, Italy, Portugal, Slovakia and Turkey (Figure 9).

Figure 9. The rural-urban gap in science performance



Source: OECD, PISA 2015 Database

Figure 10. The rural-urban gap in educational expectations (ratio)



Source: OECD, PISA 2015 Database

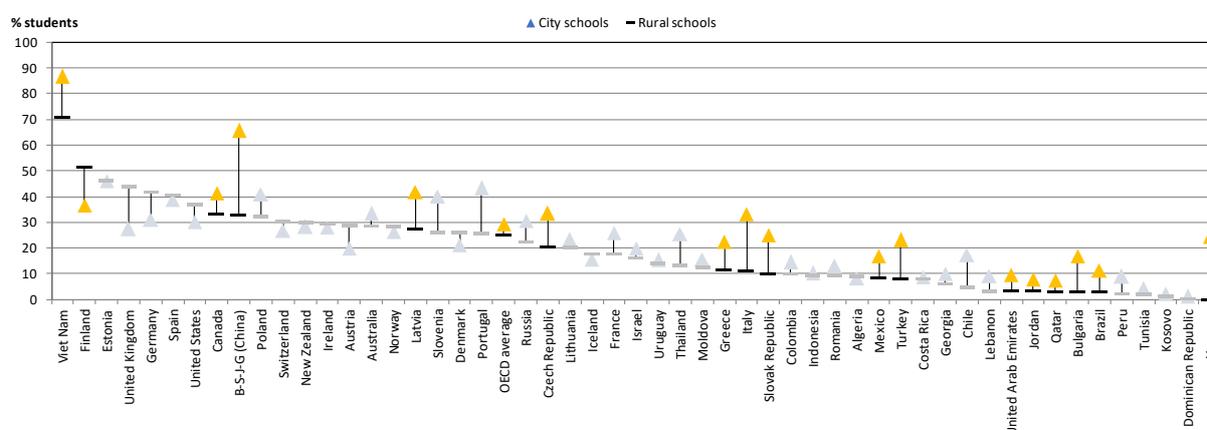
The rural gap in students' expectations of completing a university degree is also to some extent explained by students' lower socio-economic status (Figure 10), and decreases substantially after accounting for socio-economic status, on average across OECD countries. The rural gap, measured in odds ratio, decreases almost 70% after accounting for students' and schools' socio-economic profiles. However, the rural gap persists suggesting that other aspects of rurality, such as geographical barriers and a lack of career role models and highly-skilled jobs in their home villages, may also play a role (Bauch, 2001; Alpe, 2012).

Different settings and the opportunities they provide may influence students' motivations and choices. While cities tend to have more diversified labor markets and often concentrate on universities and other tertiary institutions that provide opportunities to acquire the required qualifications, labor markets in rural areas tend to require less sophisticated skills. Moreover, the levels of educational attainment are typically lower among parents of children in rural areas, which can influence the nature of their involvement in school matters, the extent to which they can assist their children in navigating the education system and their children's career aspirations.

Despite the challenges facing rural schools, some studies argue that small and rural schools can be particularly beneficial to socio-economically disadvantaged students (Semke & Sheridan, 2012). Nonetheless, PISA 2015 data reveal that the share of resilient students those who despite coming from a disadvantaged background exhibit a high academic performance is somewhat

higher in a city than in rural schools, on average across OECD countries (Figure 11). Only in Finland, socio-economically disadvantaged students in rural schools are more likely to overcome their socio-economic circumstances than their urban peers. Rates of grade repetition also tend to be particularly high in rural schools: on average across OECD countries, students in rural schools are almost twice as likely to have repeated a grade as students in city schools (OECD, 2016b).

Figure 11. Share of resilient students, by school location (% students)



Source: OECD, PISA 2015 Database

Rural schools are often viewed from a negative perspective. Their geographic isolation, small size and socio-economic composition are believed to increase their chances of suffering from inadequate infrastructure, a lack of quality teachers, and limited educational offerings, among other challenges. However, as this section reveals, these problems are far from universal, and some of the characteristics of rural education, such as their low student-teacher ratios, the abundance of social capital and the emergence of new technologies, open real opportunities for rural schools.

1.6.2. Policy programs (school) aimed for youth

The design of education policies has much to gain from taking into account the different contexts in which schools are embedded and the ways in which they interact with and create differences in educational processes and outcomes – rural places being one such context among others. Likewise, it is clear that education policy can only benefit from broader and more comprehensive approaches to address the challenges linked to particular places – be it building and maintaining thriving rural communities (e.g. through links with regional development, labour market and innovation policies) or reducing segregation in the case of urban areas (e.g. through links with housing and transportation policies).

More contextualised policies should reflect the differences between types of rurality. Remote rural schools are likely to face greater difficulties in providing a good education than rural schools at an urban fringe, for example (Greenough et al., 2015). Education policy that reflects the needs of schools in different geographical contexts, therefore, requires adequate statistical definitions, so resources can be targeted effectively and the use of resources can be monitored and evaluated. This includes adequate decisions on the unit of analysis which determines the number of concerned students as well as sufficient attention to diversity and change in rural areas (Arnold et al., 2007).

Rural schools can also partner with urban schools, particularly those that share similar features. What many rural schools are doing out of necessity, such as multigrade and multi-age teaching, some urban schools are doing out of choice. Montessori schools, for instance, have been advocating for a multi-age grouping of students for over a century (Proehl et al., 2013). Rural schools could also gain insights from such well-developed pedagogies and practices in urban contexts. The success of networks for rural schools to overcome capacity and resource constraints linked to location and size depends on a number of factors. Distance and the time it takes to travel between school sites as well as a lack of a common understanding among different school communities for the need to collaborate can act as barriers. Trust and collaborative working relations between schools, clear goals, mutual benefits and actionable results emerging from working together, on the other hand, can facilitate successful collaboration among rural schools. Given the central role that schools play in many rural communities, collaboration with the wider community is essential (Schafft, 2016). Local schools can collaborate with sports club, arts centers, local museums, health centers, the police and other local organizations. Rural schools themselves, particularly those in small and remote areas, could turn into local community centers offering a wide range of services, such as a library, a nursery, elderly care and other social services. As the example of a Scottish village demonstrates, rural schools can even share the premises with the police or the fire station (Scottish Government, 2013). While the rationale

for these partnerships is usually a financial one, they can also be justified from an educational perspective. Some studies suggest that a greater emphasis on community-based and authentic learning can benefit student learning (Bouillion & Gomez, 2001). Partnerships between the school, health and community services can be particularly useful to overcome the numerous barriers faced by some rural children (Clarke & Wildy, 2011).

Students in rural schools may also have fewer options when it comes to choosing a wide range of education courses and programs, particularly in secondary education, which may affect their achievement and options for further study. Schools may not have the teachers with the required expertise to teach specialized courses, such as advanced mathematics, or not have enough students that are adequately prepared for or interested in taking such courses (Irvin et al., 2017). Evidence shows that the quality of the curriculum is not necessarily better in larger schools, at least after a certain size threshold is reached (Corbett & Mulcahy, 2006).

Rural schools may not only struggle to offer academic depth and breadth but also to provide additional support and supplementary services, including for particular groups of students. For instance, rural schools may face particular challenges to create inclusive learning environments for students with special needs. While rural schools tend to have fewer space constraints than urban and suburban schools, they often face challenges when trying to find and retain the necessary specialised staff or to get support from external service providers due to their location. A small number of educators may have to work with a wide range of abilities and disabilities beyond their area of expertise (Sipple & Brent, 2015).

Schools are also places where students develop many of the social and emotional skills they need to lead a happy and fulfilling life. Rural schools may, however, face particular barriers in providing opportunities for broader student development and in supporting well-being. For example, the design and implementation of strategies for school-based mental health prevention and intervention may be influenced by limited access to school-based and community-based resources (e.g. counsellors, psychologists, social workers), little knowledge of innovative models (e.g. evidence-based practices and data-based decision-making), and a lack of awareness and support in the local community (e.g. social stigma towards seeking help) (O'Malley, Wendt & Pate, 2018).

Rural schools can again not benefit from the economies of agglomeration and community resources in the same way as their urban counterparts do, often limiting their offer of after-school activities. Some children may be able to attend some of these activities, such as science clubs, cultural events and sports activities, in neighboring urban centers, but at a considerable logistical, time and financial cost for parents and children. In one study conducted in the United States, for instance, many students who were transferred to a larger school following a school closure cited the expansion of after-school activities as the main, and sometimes the only, advantage of their school transfer (Delp, 2015).

1.6.3. Impact of provision of formal education opportunities on economic prosperity

Education is a key component of the country's human capital, and it increases the efficiency of each individual worker, increases companies' productivity and helps economies to better integrate in the supply and value chains in the production processes and international trade.

Very important is the link between government spending on education and economic growth. Carmignani (2016) analyzed the direct effect of education expenditures (measured as a share of share of total GDP over period 1990–1999) on GDP growth (measured as annual GDP growth rate over the period 2000–2010) in 151 countries. He found that countries that spent more on education as a proportion of GDP in 1990–99 experienced faster economic growth in the following decade. More precisely, an increase in the education expenditure by 1 percentage point of GDP, increases GDP growth by 0.9 percentage points. In addition, investment in secondary education provides a higher impact on economic development rather than the effect of primary education alone. Thus, in the Sustainable Development Goals (SDGs) universal primary education must be complemented with the goal of ensuring broad sections of the population have at least accomplished junior secondary education. This is even more important in developing countries.

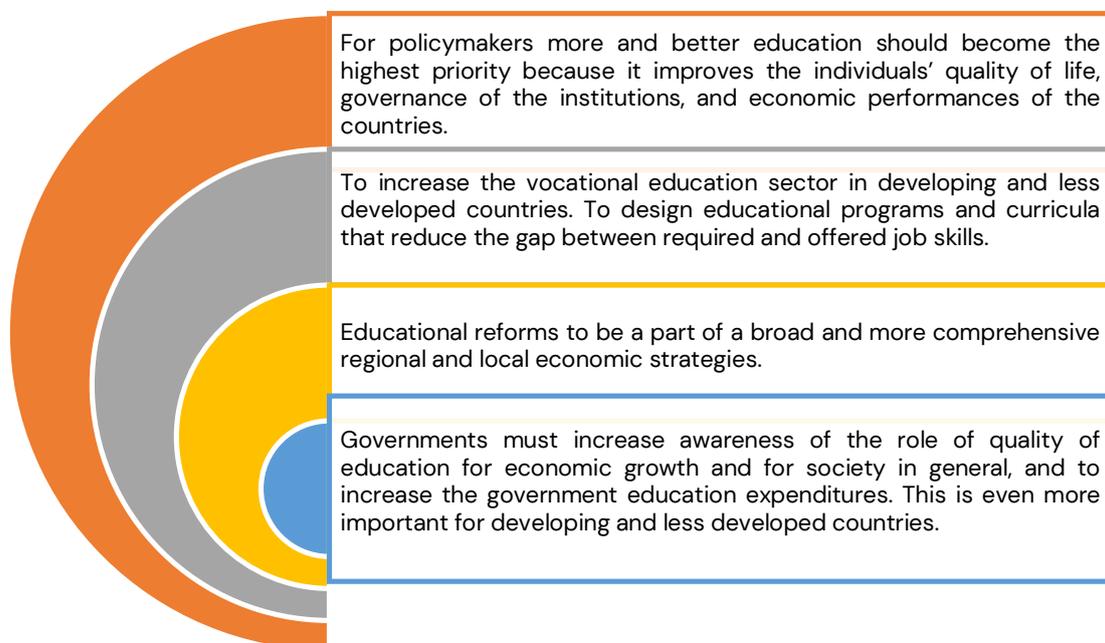
Barro and Lee (2010) suggest that secondary and tertiary education particularly facilitate the transfer of knowledge about new information, products, and technologies created by others. And consequently, education affects a country's productivity and stimulates economic growth and development in the country.

Unfortunately, a number of empirical cases confirm that many less developed (or developing) economies are not able to use the benefits of education in the process of accelerating their growth. While developing countries have made considerable improvement in closing the gap with developed countries in terms of school attainment, but they underestimate the importance of skills and education quality for economic growth, and consequently it makes difficult to improve their long run economic performances.

These kind of disparities in economic prosperities are very likely to notice among urban and rural development. A lot of rural areas (even in developed countries) are not in a position to utilize the benefits of education. These areas are facing with the problem of depopulation and mismatching between the demanded and supplied skills on the labor market. Also, the gap in infrastructure development among rural and urban areas just added to the drawbacks in economic development. With the process of decentralization local governments have gotten greater responsibilities and become the focal centers for local development. They become a key factor in the designing and implementing of the strategies for local and rural development.

On the other side, the rural world is changing rapidly. Young people need to be prepared to cope with the new challenges, new technologies, products, markets and business environment. Agriculture is changing, too. So, a new skills and knowledge is needed to cope with these opportunities. In these challenging times rural education is one of the important factors for rural and regional development. Analyzing the distribution of unemployed persons and people who are part of NEETs, most of them are from rural areas. So, firstly it is necessary to provide a basic education that motivates them to study, training to give them skills that are demanded on the labor market, and opportunities for some to continue in higher education. Finding and maintaining employment for rural youth requires broad-based occupational skills or specific job-related skills. Most of these skills are acquired in training institutions. Vocational schools aim to prepare students for entry into the labor market. But, in developing countries the vocational education sector is around 22% of total students' enrolment and it tends to be smaller than in the OECD countries. For most of the rural youth higher education is very expensive. So the transition to higher education for rural youth is difficult and requires financial support. To cope with these challenges and problems local governments has to develop a comprehensive model of economic development, where the accent will be put on the quality of education programs and sustainable forms of funding for these programs.

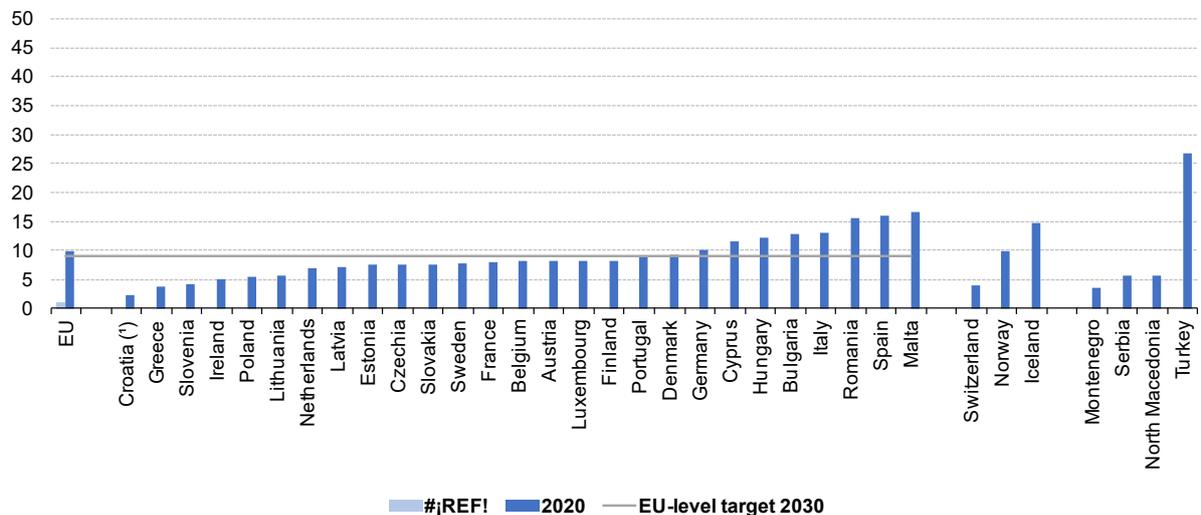
1.6.4. Policy implications



2. Early School Leaving

Early School Leaving (ESL), “those young people who leave education and training with only lower secondary education or less, and who are no longer in education and training”. In statistical terms, European ESL rates are measured as the percentage of 18–24-year-olds with only lower secondary education or less and no longer in education or training” (LSF, 2012). Early school leavers are more exposed to unemployment and precariousness (Eurostat, 2020). They are also at greater risk of becoming NEET or long-term unemployed (Mascherini, 2019) (Figure 12).

Figure 12. Early leavers from education and training, 2020 (% of population aged 18–24)



Note: break in time series.

(*) 2020: Low reliability.

Source: Eurostat (online data code: edat_lfse_14)

Source: Eurostat (edat_lfse_14)

2.1. Causes of ESL



2.1.1. Education Systems

Education system plays an important role in addressing ESL. In education systems with a unique structure, individual development plans (IDPs) are obligatory for all schools and have as their main objective not only the identification of individual learning objectives, but also the construction of personalized strategies to combat learning difficulties and gaps (Shewbridge et al. 2011)

The school orientation of students, especially the one achieved at very young ages, has an impact in the medium and long term (Glasman, 2003) the risk of dropping out of school and later becoming NEETs is much higher in the case of those who were oriented towards profiles on who did not want them or about whom they were not well enough informed.



Single structure education (specific to Northern European countries) where students learn according to a common curriculum throughout compulsory schooling and no form of selection is provided between primary and lower secondary level.

Education based on a core curriculum (Italy, France, Spain, Portugal, Romania, Turkey, etc.) applicable from the lower secondary level (ISCED 2).

Differentiated lower secondary education (specific to Germany, Austria, the Netherlands, Luxembourg) which involves the orientation of students on distinct educational pathways immediately after the completion of ISCED level 1. (European Commission / EACEA / Eurydice, 2018:5)



2.1.2. Socio-Economic, Family and Individual Characteristics

Individual and family characteristics (sex, education level, age, socio-economic background) are determinant factors in the outcomes of youth transitions from education to employment and can increase or decrease the probabilities of one becoming NEETs.

Characteristics of young people's families' characteristics that can mitigate or aggravate their chances of becoming NEETs can be summarised as follows:

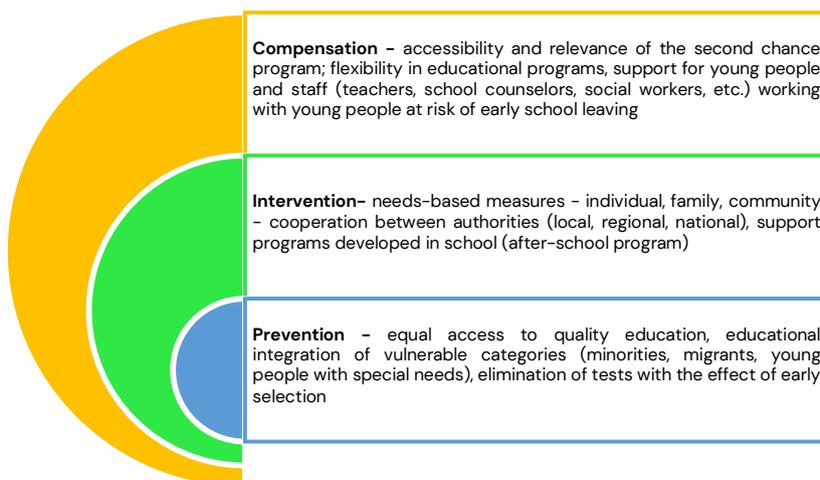
- **Parental education level** – parents who have a low level of education have limited expectations of their children.
- **Socio-economic status** – parents who do not have a job, divorce, large number of children, poor living conditions can not afford the costs of education (school supplies, extracurricular activities, etc.).
- **Gender** – Young men are at greater risk of early school leaving.
- **Special needs, disability and health** – young people who leave school early are more likely to come from disadvantaged groups including young people with a disability, special needs, or physical and mental health problems.
- **Minority ethnic and migrant groups** are overrepresented among early school leavers in most EU countries.

Despite these socio-economic, family and individual characteristics, countries structural and conjunctural conditions are one of the main determinants in young people trajectories, namely the functioning and performance of educational structures and labour markets, and economic dynamics, many times impacted by adverse economic/social conditions, such as the economic crisis that hit Europe in 2008 or the pandemic crisis we are currently experiencing. This can limit or enhance their possibilities and choices in their transitions from education to employment.

Early school leaving an EU priority



2.2. Policy recommendations

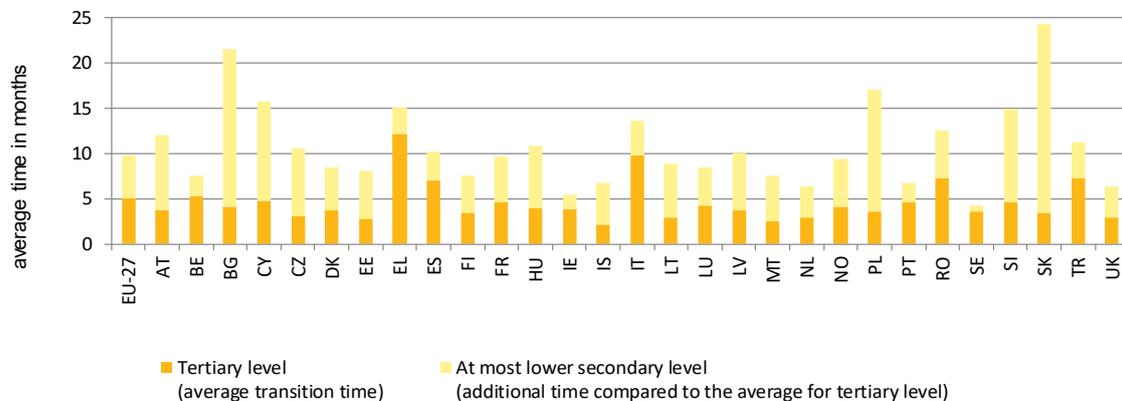


3. School to Work Transition

The School-to-Work transition (STWT) is the period from the end of studies (upon graduation or early exit without completing studies) until the attainment of the first regular job. The identification of a regular job requires an ad hoc definition: firstly, regarding quantitative aspects, such as the duration of this job (for Eurostat, at least six months, excluding seasonal and occasional jobs); and secondly, qualitative elements (according to international institutions such as the ILO), such as job stability (a permanent contract) or job satisfaction.

Few attempts have been made in measuring the duration of the STWT. Eurostat did it through an ad hoc module of LFS (Figure 13).

Figure 13. Average length of transition from school to work by educational attainment level, 2009 (average time in months)



Notes: Results are based on people who left formal education in the last five years. BG, LT and SI data lack reliability due to low sample sizes for the category "at most lower secondary".

Source: Eurostat (2009 ad hoc module on the entry of young people into the labour market)

3.1. Causes of Lengthy School-To-Work Transitions

3.1.1. Regimes

The STWT regime is the mixture of the education system and labour market characteristics and institutions affecting the transition from education to a stable job.

3.1.2. School Systems

In some countries, the education system is sequential, strongly disconnected by the labour market, and does not provide young people the skills required by employers (Largueze et al., 2008; Eurostat, 2020).

3.1.3. Labour Markets

Where labour market is not flexible, the higher barriers to dismissals penalize mainly young people. The Institutions regulating the labour market attain mainly the active and passive labour policies. The first one helps young people in job search and labour market integration. The second one limits to provide replacement income during periods of unemployment. Many of the reforms of the labour market proposed in the last years in some EU countries finalized to reduce the labour market rigidity have produced only an increase in labour market precariousness. All these facts make young people among the most vulnerable segments of the population in the labour market. The last decade of global economic crisis and the recent pandemic by COVID-19 still increased the young people's disadvantage.

Liberal (Ireland, UK, US, and other Anglo-Saxon countries) regime: shows a sequential education system, but of high quality; Institutions are flexible, with low employment protection; the STWT is quick and smooth.

Central European or Bismarckian (Austria, Germany, Luxembourg, the Netherlands, Switzerland, and, more recently, France) regime: presents a dual education system, with very high developed Institutions and a high overlap between work and education.

Scandinavian (Denmark, Finland, Norway, and Sweden) or universalistic regime: is characterised by emphasis on collective social responsibility, individual motivation and personal development.

Mediterranean (Greece, Italy, Portugal, Spain, and, arguably, Belgium) regime: shows a sequential and vertical education system, underdeveloped and rigid Institutions with few active labour policies.

Eastern European (all the countries formerly belonging to the former Soviet bloc) regime: has a single structure education system, in many countries still derived from the legacy of the late Soviet Union, or largely influenced thereby, with a centralized education management.

3.2. Policy Recommendations

In 2019, in Europe, 12.6% of the population of young people aged 15–29 years were NEETs, which means that they do not work and do not participate in any educational or training activity.

The long-term repercussions of the NEET condition on the professional career of these individuals are dramatic. However, these people who are not engaged in any productive activity represent a tremendous economic loss for each country. Individuals in the NEET status are not uniformly distributed across countries and within each country. In 2019, within the population aged 15–29 years, NEETs were 22.2% in Italy, 17.7% in Greece, and 16.8% in Romania, while they were only 5.7% in the Netherlands, 6.5 in Luxembourg and 7.6% in Germany.

These shares are also remarkably worsened in the aftermath of the Covid-19 pandemic.

These figures are the result of a very complex economic and social framework.

High levels of unemployment, a consistent disadvantage for young people compared with their adult peers, and the inefficacious of the education system to prevent early dropouts and to provide the skills that the labor market requires are the leading causes of these high shares of NEETs. In countries where youth unemployment is high, many young people remain inactive for discouragement, showing disengagement from social and economic life or decide to leave their native country in search of better job opportunities abroad.

All these circumstances make young people among the most vulnerable segments of the population in the labor market. However, when these young people show other disadvantage factors, such as being female, being low educated, having an immigrant background, the difficulties and barriers they meet on the labor market are still more severe.

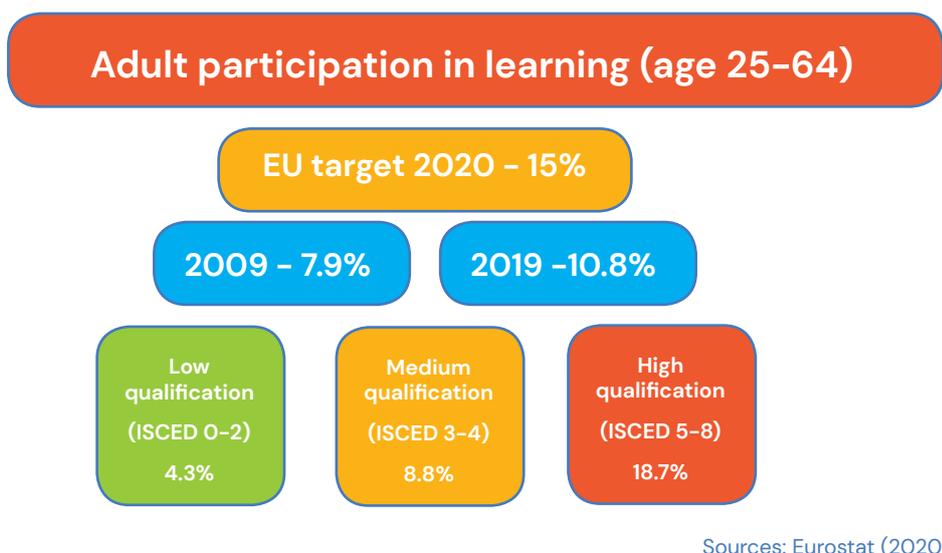
It is not easy inverting this spiral of disadvantage. However, some actions can reduce it. As for education, it is necessary to improve the quality of teaching and stimulate more people to attain higher levels of education. Looking at the example of European countries with the low-est share of NEETs, this translates in reforming the curricula introducing new skills, especially of digital type, strongly required in the labor market, a professional path of education which creates a privileged way to a technical profession. Besides, introducing more active than passive labor policies aimed at creating opportunities for training and job experience may help young people to reduce the relative disadvantage with their adult peers.

4. Second Chance – Return to Education Programmes

In all EU countries there is a share of the population that has given up education early and for which there is a need for support programs to help them complete their school and professional training, to integrate socially and professionally. One of the most popular educational programs is Second Chance Educational Programs. Eurydice's glossary defines this program as "educational programs aimed at supporting children/young people/adults who left the educational system too soon, without having completed the primary and/or secondary education, exceeding by at least 4 years the school age corresponding to such levels, so as to make it possible for them to complement and finalize the compulsory learning programs and to obtain a vocational qualification" (Eurydice, 2021).

The objectives set for the Europe 2020 Agenda can also be found in the Sustainable Development Agenda 2030, a sign that they have not yet been achieved (Figure 14).

Figure 14. Sustainable Development Agenda 2030, key indicators



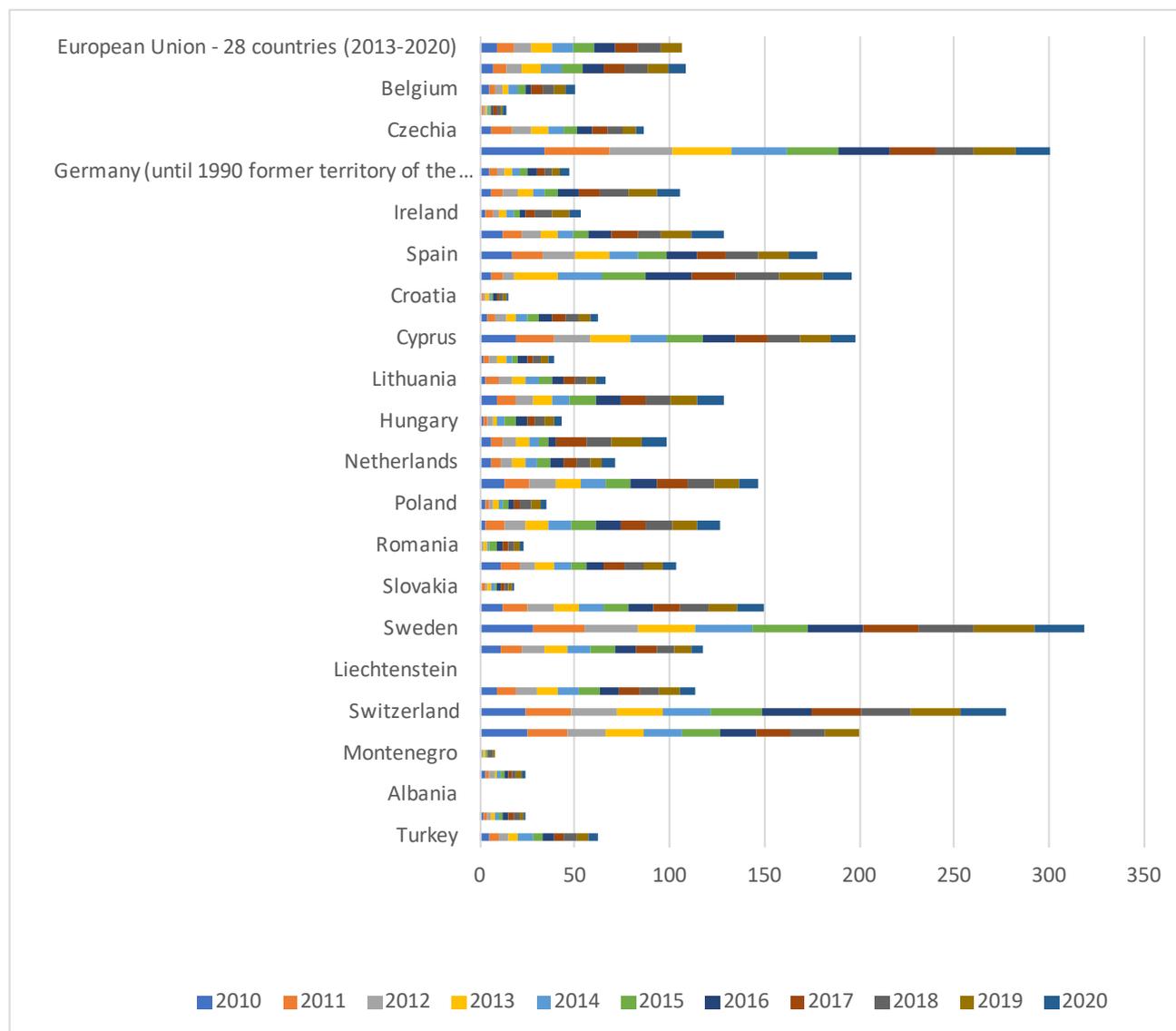
4.1. Why do young people ‘drop out’ of education?

The main causes of young people ‘drop out’ of education can be summarised as follow:

- Dropping out of education is based on financial barriers (eg training and transport costs) and/or non-financial barriers (eg limited education and training infrastructure, inflexible training programs).
- At the level of disadvantaged categories there is a process of “intergenerational transmission” of poverty, lack of education, difficulties in getting a job.
- Young people in rural areas are much more likely to drop out of school mainly because the opportunity costs for education and training may be too high to give up their unpaid income-generating activities that help support their families.
- Young people with disabilities, those belonging to minorities, migrants are more exposed to dropping out of school for reasons related to physical access facilities (equipping schools with equipment for people with disabilities, for example), language barriers, bullying, etc.

The latest Eurostat data reflect important differences between European regions: high values of participation in non-formal education in the North, very low in Eastern Europe and average values in other regions (Figure 15).

Figure 15. Participation rate in non-formal education and training (last 4 weeks) by age,15-29 years (%)



Source: Eurostat (yth_educ_060)

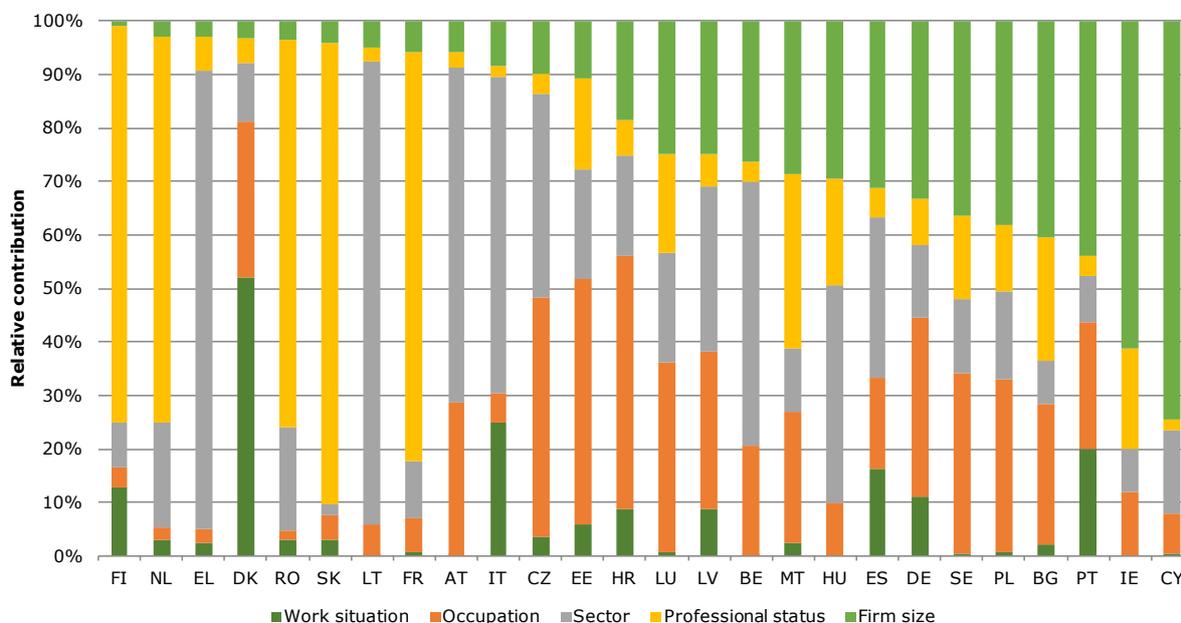
["http://appsso.eurostat.ec.europa.eu/nui/show.do?wai=true&dataset=YTH_EDUC_060"](http://appsso.eurostat.ec.europa.eu/nui/show.do?wai=true&dataset=YTH_EDUC_060) yth_educ_060

4.2. Getting Back to Learning

To return to the education system, young people, especially the disadvantaged, need support but also motivation. Why should young people be motivated to return to education?

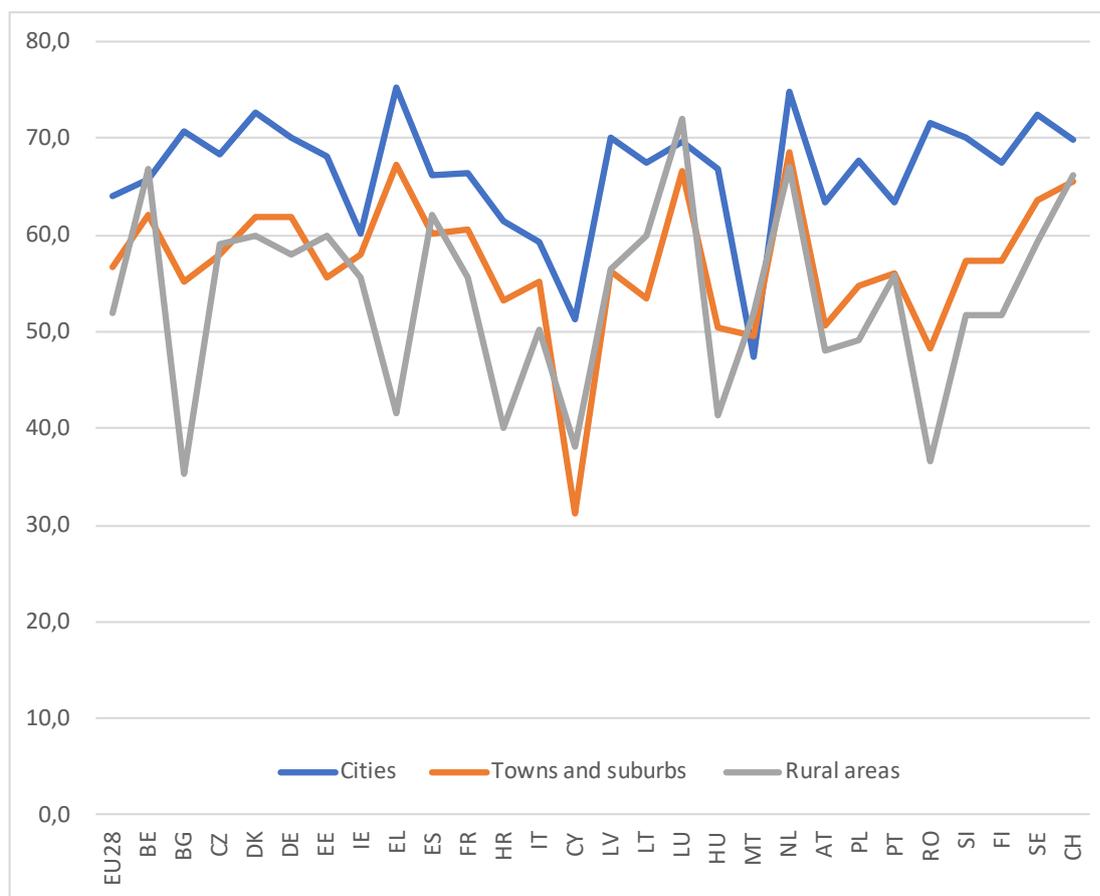
Young people in all EU countries have multiple benefits by returning to the education system (Figure 16). The return to the educational system is not motivating in the same way for all age groups and young people in urban or rural areas.

Figure 16. Relative importance of adult learning determinants across countries: personal v education vs job-related characteristics, 2016 (%)



Source: CEDEFOP, 2016

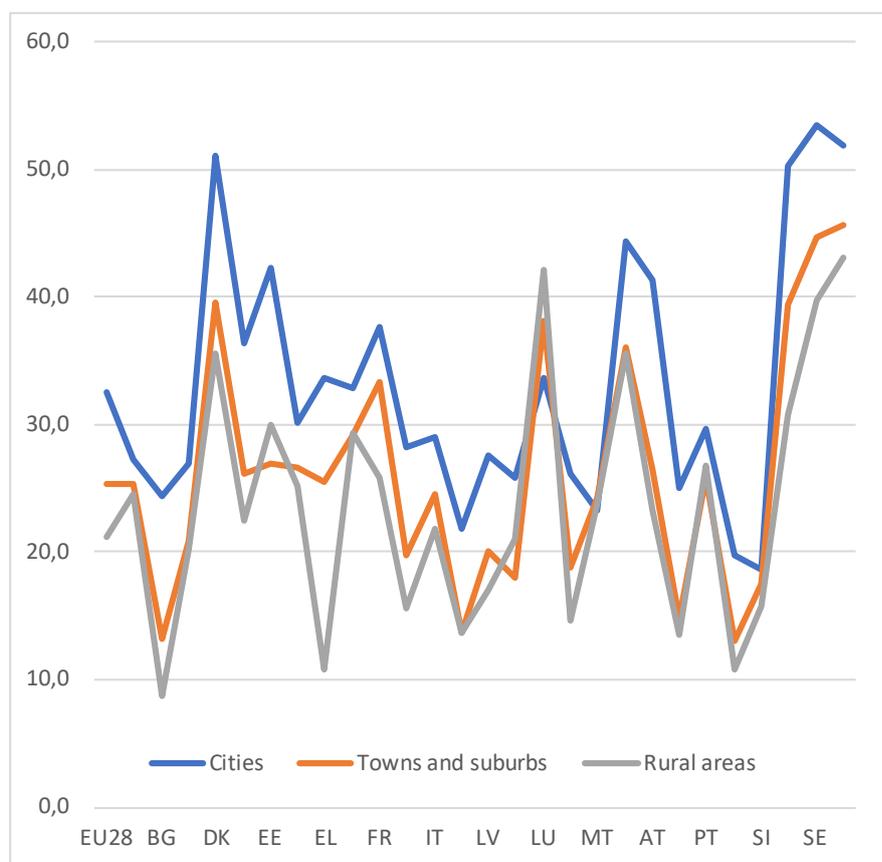
Figure 17. Participation rate in education and training (last 4 weeks) by age and degree of urbanisation 18–24 years (%)



Source: Eurostat (trng_lfs_14)

Eurostat data (Figure 17 and Figure 18) reveals two main aspects: the younger the age, the greater the chances of returning to the educational system; urban living is associated with a higher level of participation in education and training while rural living means reduced participation rates in all EU-28 countries.

Figure 18. Participation rate in education and training (last 4 weeks) by age and degree of urbanisation 20-24 years (%)



Source: Eurostat (trng_lfs_14)

4.3. Policy Recommendations

- European, national and local authorities should map the support needs of the 'young people and plan growth in services to enable their participation in learning. Government should identify and disseminate models of effective practice for vulnerable groups such as NEETs, minorities, migrants, young from rural areas, youth with disabilities, teenage mothers and care leavers etc.
- Education systems and the labour market must work together to identify measures: more flexibility in the program and types of training, financial support for young people at risk, the application of innovative and accessible learning methods to attract youth and motivate participatory approach.

5. Initial and Continuing Teacher Education

Teachers employed in formal educational settings have and will continue to play a crucial role in the future of the European Union. As the European Commission forges ahead with Horizon Europe in an effort to address both social and economic challenges, education and those who provide it, is often best placed to both inform and implement policy (Eurydice, 2018; 2019) that responds to the increasing diversity of the student population that teachers encounter. However, despite this obvious alignment, it is the case that the teachers remain largely underprepared to teach across a range of school contexts. Furthermore, it is also clear that teachers feel underprepared to engage with students from a broad range of backgrounds, including students who reside in rural locations (PPMI, 2017).

Much of the change that has occurred in ITE and continuing teacher education over the last decade relates to establishing sustainable continuing professional development opportunities specifically relating to developing collegiate and collaborative approaches to teaching (Rizza, 2011; Caena, 2014). While attention has been paid to the rapidly changing diversity of classrooms the formal education of teachers, ITE or otherwise focuses exclusively on curricular informed pedagogy and does not include opportunities to take specialised training in areas such as teaching in rural contexts.

It is evident that relationship-building practices in teaching, that extend beyond classroom pedagogy, can be an effective way to support ongoing student engagement with lifelong learning, certainly to the point of post-compulsory education (UNESCO, 2013). However, only a very limited amount of empirical studies have been carried out on what are the competencies that teachers need in order to be able to teach not only in diverse classrooms but also across a diverse range of settings (Deardorff, 2009; Lindsay et al., 2006).

5.1. Current Supports Provided

While it is evident that the EU and its Member States are acutely aware of the need to prepare both trainee teachers and in-service teachers for the diverse classrooms that they will engage with, it is equally clear that the extent to which teacher will be prepared for teaching in a wide range of settings is limited. In recognition of this, the emergence of an explicit call within the Erasmus+ programme for the development of European Teacher Academies has presented an opportunity for the collegiate and collaborative approach called for by Rizza (2011) and Ceana (2014) can be expanded to provide a space for innovation that may respond to the sensitivities of teaching in rural contexts.

5.2. Emergent Needs

There is a clear need to establish a forum for trainee teachers, in-service teachers and teacher educators to discuss the specific challenges of teaching in rural settings and in particular those challenges that pertain to young people who are at risk of falling into NEET status.

Hand-in-glove with establishing this network goes the requirement for specialised training to be made available to that is sensitive to not just the diversity within the classroom but also the environment that shapes that composition of that classroom.

5.3. Policy Recommendations

A specific focus on the training of teachers enhances their capacity to teach across a range of settings such as the urban and rural locations where the challenges experienced by students are often particular to the geographical location of the educational setting.

An explicit call within the Erasmus+ Teacher Academy Programme that focuses on supporting teachers to practice across diverse geographic locations would provide an excellent starting point to build the required supports.

6. Digital Opportunities in Formal Education

6.1. Individual Perspectives

Digital technologies are changing the world at an incredible speed and are reshaping how people in Europe live, work and study. Wide range of digital technologies such as Artificial intelligence, Augmented reality, Autonomous robots, Big data and analytics, Blockchain, Cloud, Cobot systems, Cybersecurity, Unmanned aerial vehicles (drones), Global Positioning Systems (GPS), Industrial Internet of Things, Mobile Technology (e.g. Mesh networks), Radiofrequency identification, near field communication, sensors and actuators, simulation, software-as-a-Service, etc. (Zareiyan & Korjani, 2018; Tijan et al., 2019; Bai et al., 2020; Kayikci et al., 2020; Sestino et al., 2020; Forcina & Falcone, 2021; Nikolić et al., in press) brings new challenges and opportunities, transforming our system towards more sustainable one, while it remains to see how individuals, especially from remote areas (facing ongoing problem with an unstable and nonreliable internet connection), and achieve inclusive and quality education and training. Because of that, multiple national and international organizations put digitalization⁴ as the main/focal agenda for most of the policies (Digital Education action Plan 2021–2027 „Resetting education and training for the digital age“ (EC, 2020a), most of the EU Member States have national and/or regional strategies for digital education⁵ (EC, 2019b), European Green Deal (COM/2019/640 final) and the new Skills Agenda (COM(2020)441 final/2) recognize the links between the green and digital transitions and the need to exploit synergies between them (EC, 2020a); NextGenerationEU, MFF, European Social Fund Plus (Konle-Seidl & Picarella, 2021), etc. (ENRD, 2018a,b,c; Williger & Wojtech, 2018; Lytras et al., 2019; Naldi et al., 2015; Sept, 2020).

4 Digital transformation comprises a spectrum of activities, encompassing both digitisation and digitalisation. Digitisation can be described as the “technical conversion of analogue information into digital form” (Autio, 2017, p. 1) while digitalisation is the term often used to describe the socio-technical processes surrounding the use of (a large variety of) digital technologies that have an impact on social and institutional contexts (Tilson et al., 2010).

5 Examples include the ‘INcoDe.2030 – National Digital Competences Initiative’ in Portugal, the ‘Pacte pour un Enseignement d’Excellence’ in the French Community of Belgium, and the ‘DigitalPakt Schule’ in Germany. In some cases, digital competence is part of broader strategies on lifelong learning, as in Estonia, or sustainable development, as in Poland.

Being digitally competent is both a necessity and a right, but „...being digitally competent^{6,7} involves the confident, critical and responsible use of and engagement with digital technologies for learning, work, and participation in society...“ (EC, 2020a). It is becoming more important to possess such skill to become a more engaged citizen, playing a more important role in society, engaged in further education and training, accessing the labor market (EC, 2020a), facilitating social interaction, promoting instant contact across socio-geographical distances and boundaries, extending information search and spatial horizons, and enriching possibilities for entertainment (for overviews, see e.g. Haddon, 2004; Adams, 2005; Rainie & Wellman, 2014; Graham & Dutton, 2014; Kellerman, 2016; Thulin & Vilhelmson, 2019a). But it also brings some negative effects such as sedentarism, inactive lifestyles, loneliness and isolation, fragmenting concentration and attention, as well as potential consequences such as obesity, health problems, learning difficulties, and mental disorders related to Internet overuse and addiction (for an overview, see e.g. Sinkkonen et al., 2014) (Thulin & Vilhelmson, 2019b).

But still, 33% of 13–14 years old who participated in the International Computer and Information Literacy Study did not have a high proficiency level in digital competence (EC, 2020a), or 9% of 15 years old students did not have a quiet place to study in their homes and access to computers and connectivity was a concern, while 20% of young people (aged 16–24) in EU lacked basic digital skills (according to the Education and Training Monitor, 2019; as cited in Konle-Seidl & Picarella, 2021). According to the human capital dimension of the Digital Economy and Society Index (DESI) (EC, 2020b), which provides comparative data on digital skills⁸ in the Member States, shows that 44% of EU citizens still have an insufficient level of digital skills (EC, 2020b).

According to Eurostat (2021), internet access increases significantly in the past decade (64% in 2009 to 90% in 2019), and broadband internet usage also increased (55% in 2009 to 88% in 2019). But, significant differences between and within countries are prominent. The proportion of students that have access to highly equipped and connected schools range from 35% to 72% in Europe and it depends on the level of education (ISCED 1, 2, 3) (EC, 2020b). Also, the availability and adoption of digital equipment are not spreading at the same speed in rural and urban areas (EC, 2020b; Liu & Onwuegbuzie, 2012; Robinson, 2008; Wang et al., 2019) this was especially prominent during the COVID-19 pandemic.

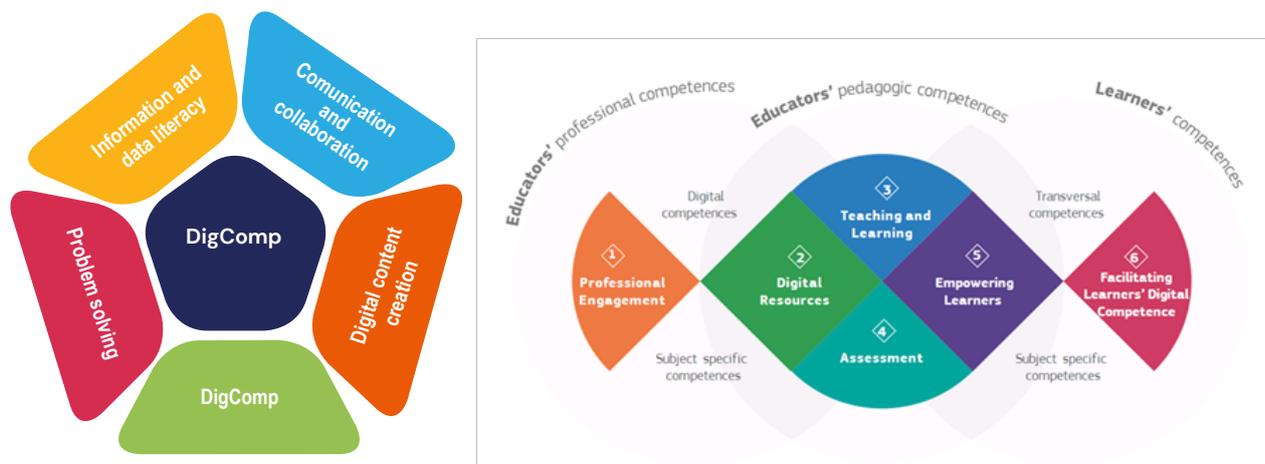
6 According to the DigComp Framework, digital competence includes information and data literacy, communication and collaboration, media literacy, digital content creation, safety, intellectual property related questions, problem solving and critical thinking.

7 Digital competence is a multi-dimensional construct that includes knowledge, skills and attitudes in a range of areas, including creative use of digital technologies, safe and responsible use and data literacy (EC, 2020a)

8 Other sources providing information about digital skills include: DESI, EURYDICE, EUROSTAT, ICILS, PIAAC, PISA, TALIS.

The most prominent problems are the ones connected with: (i) Learners lacking interaction – effective communication with learners mandatory to prevent loss of motivation and passive role of students. (OECD, 2020a, 2020b), (ii) unable access suitable devices (lack of digital tools, tablets and laptops (EC, 2019a), (iii) reliable internet connection, (iv) teachers digital skills only 39% of teachers felt well or very well prepared to use digital technologies⁹ for teaching). Even the young generation of today is often called „digital natives“, „...digital technologies uptake and use for teaching and learning requires a critical approach and a holistic perspective...“ (EC, 2020b) (Cheong, 2008; Hague & Williamson, 2009; Hargittai & Hinnant, 2008; Zillien & Hargittai, 2009; Hargittai, 2010; Litt 2013; Van Dijk 2005; Van Deursen & Van Dijk 2011; Boyd, 2014; Davies & Eynon, 2013; Hargittai 2010; Van Deursen & Van Diepen, 2013). Such perspective includes robust digital capacity, planning for organizational change, ongoing monitoring and adaptation, a strong focus on learning-driven pedagogy, leadership, professional development shared understanding, etc. (EC, 2020a). Therefore, a strong link between learners and teachers should be established¹⁰ focusing on several priorities proposed by the Digital Strategy (EC, 2020a) visually presented in figure 19.

Figure 19. DigComp framework competence areas for learners (left) and teachers (right)



Source: EC, 2020a

9 Online learning courses and Massive Open Online Courses (MOOCs), Virtual Learning Environments (VLE) – use vary between Member States with primary schools using less (37%) compared to the upper (50%) and secondary schools (59%) (EC, 2020b).

10 „...But the heart of learning is not technology, it is pedagogy and ownership. Successful education systems in this moment will do whatever it takes to develop ownership by the teaching profession...“ (Sept, 2020).

6.2. Digital Opportunities in Formal Education

The growth of the use of digital technologies in formal education¹¹ offers new opportunities to assist rural youths not only during their schooling period but also in their careers at life-time. COVID-19 has profoundly changed the use of digital technologies in formal education both at the institutional, as well as individual level. The formal education institutions increased their capabilities to use digital technologies, and individuals increased the intensity of use of online learning – both for formal and informal education – compare to pre-COVID-19 levels (Entrich, 2015; Bacher-Hicks et al., 2020; Sanz-Labrador et al., 2021; The Economist, 2021).

Career pathways would be a useful categorization to draw attention to the digital opportunities in formal education that meet the career construction needs of rural youth in remote and disadvantaged locations.

6.2.1. Career Initiation

The use of digital technologies in formal education plays role in the career initiation of rural youths during their schooling period. The reported impacts can summarize as: **i)** increases the educational involvement of specific rural youth groups such as young females and out-of-school young mothers (Wang and Wong, 2019; Thomson & Alant, 2021; Safdar et al., 2020), and provides a solution for some rural regions that experience a decline of education involvement (Hilli, 2020); **ii)** closes the existed education gap between urban-rural regions (Khan et al., 2019); **iii)** improves the learning performance among rural youth (Ale et al., 2017; Ardianti et al., 2020; Chen & Kao, 2019), particularly the effectiveness of digital education tools is higher in the primary and secondary school (Wu et al., 2019); **iv)** increases career initiations towards STEM careers (Science, Technology, Engineering, and Mathematics) where rural youth show less involvement (Hango et al., 2019; Reid, et al., 2016); **v)** empowerment of rural youths learning skills such as creates self-confidence, growths mindsets, increases community engagement, promotes career aspirations; improves cognitive skills (Arulchelvan & Yunus, 2020; Burnette et al., 2013; Denton-Calabrese et al., 2021; Akcaoglu & Green, 2019).

¹¹ The digital technologies used by formal education institutions includes diverse tools such as Learning Management Systems (LMS) (e.g., free or paid online platforms such as MOOCs); Information and Communication Technologies (ICT) (e.g., internet base applications like zoom); publish and share formal education tools (e.g., e-books, podcasts); online collaborative systems (e.g., Google Docs); social networking platforms (e.g., Academia.edu); interpersonal online communication tools (e.g., email); 3D Virtuals (e.g., games, virtual labs); online assessment systems (e.g., computer note taking) (see Pinto and Leite 2020 for a review).

6.2.2. Career Progress

Recent findings offer an understanding of the benefits of the use of digital technologies in formal education institutions for the career progression of rural youth that experience not only geographic but also professional isolation. These are mainly associated with two main progress: First is related to the career progress of rural youth via the acquisition of emerging skills in their career tasks, work-related assistance, and professional development via online courses, webinars, and graduate programs during their career (Kimmel et al., 2019). Second is related to encouraging and supporting of career progress of urban youth in rural locations. The digital education tools (e.g., video, e-books) help to promote rural job practices as a career option for urban youth, particularly in the health care and agriculture sectors where there is a shortage of rural labour (Peterson et al., 2010; Burton & Riley, 2018).

6.2.3. Career Transition

The effect of the use of digital technologies by formal education institutions for career transition of rural youth gains its importance in recent years, particularly during the long-term unemployment and economic crises periods. Due to its nature of low cost, and schedule, spatial flexibility knowing about the potential to acquire hard and soft skills online allows rural youth to master new competencies that facilitate their career transitions into different jobs (Unay-Gailhard & Simoes, 2021), and move into new occupations with these newly acquired skills for example with self-employed businesses that are different that dominance of traditional rural sectors (Herslund, 2019). The digital transformation in formal education effect the rural labour relations increases the career flexibility for youth and brings labour mobility in rural regions (Skvortsov, 2020).

The challenges of the use of digital technologies in formal education in the rural regions are documented as lack of digital skills (both for teachers and students), low level of adaptation of rural people to changing conditions, lack of infrastructure. In some rural regions, particularly during the COVID-19 epidemic, these challenges were reported as an important factor that widen the preexisting gap between rural and urban students (Feng et al., 2021).

6.3. Policy Recommendations

Improving rural youth position can be achieved with more digital opportunities in formal education, aiming for digital skills improvement. Such thing can be achieved with the creation and implementation of tailor-made programs dedicated to improving youth digital skills but also, with the creation and implementation of tailor-made programs to increase teachers digital skills with a specific focus on rural areas that are usually facing problems with an unstable internet connection, lack of adequate equipment and in general poor infrastructure. Collaboration with different actors across the sectors to identify missing gaps and needs for less developed areas should be fostered on both national and international levels. The effects of digital communication tools in formal education should not be considered only as a “facilitator” of education provision during the school period, but also an “enabling” factor that affects rural youths career initiation (e.g., educational involvement of specific rural youth groups, involvement into STEM careers), career progression (e.g., acquisition of emerging skills in career tasks, promotes rural job practices), and career transition (e.g., to master new competencies that allow to enter into different jobs, or involved into self-employed businesses that are different than traditional rural sectors). Therefore, the effective use of digital communication tools should be at the heart of the relevant policy measures that aim to foster career paths of youth in rural regions.

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Policy Brief

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