1. Key indicators

		Romania		EU average	
		2009	2018	2009	2018
Education and training 2020 benchmarks					
Early leavers from education and training (age 18-24)		16.6%	16.4%	14.2%	10.6%
Tertiary educational attainment (age 30-34)		16.8%	24.6%	32.3%	40.7%
Early childhood education and care (from age 4 to starting age of compulsory primary education)		:	89.6% [17]	92.1%	95.4% [17,d]
Proportion of 15 year-olds underachieving in:	Reading	40.4%	38.7% [15]	19.5%	19.7% [15]
	Maths	47.0%	39.9% [15]	22.3%	22.2% [15]
	Science	41.4%	38.5% [15]	17.7%	20.6% [15]
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-8 (total)	77.6%	77.4%	78.3%	81.6%
Adult participation in learning (age 25-64)	ISCED 0-8 (total)	1.8%	0.9%	9.5%	11.1%
Learning mobility	Degree mobile graduates (ISCED 5-8)	:	5.8% [17]	:	3.6% [17]
	Credit mobile graduates (ISCED 5-8)	:	1.8% [17]	:	8.0% [17]
Other contextual indicators					
Education investment	Public expenditure on education as a percentage of GDP	3.8%	2.8% [17]	5.2%	4.6% [17]
	Expenditure on public and private institutions per student in € PPS — ISCED 1-2	:	:	:	:
	ISCED 3-4	:	:	:	:
	ISCED 5-8	:	:	:	:
Early leavers from education and training (age 18-24)	Native-born	16.7%	16.4%	13.1%	9.5%
	Foreign-born	:	:	26.1%	20.2%
Tertiary educational attainment (age 30-34)	Native-born	16.7%	24.6%	33.1%	41.3%
	Foreign-born	:	:	27.7%	37.8%
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	69.1%	67.7%	72.5%	76.8%
	ISCED 5-8	85.7%	88.9%	83.8%	85.5%

Sources: Eurostat; OECD (PISA); Learning mobility figures are calculated by JRC on UOE data. Further information can be found in section 10 and in Volume 1 (ec.europa.eu/education/monitor). Notes: EU averages of 2009 PISA do not cover Cyprus; d = definition differs, u = low reliability, 15 = 2015, 17 = 2017.

Figure 1 Position in relation to strongest and weakest performers
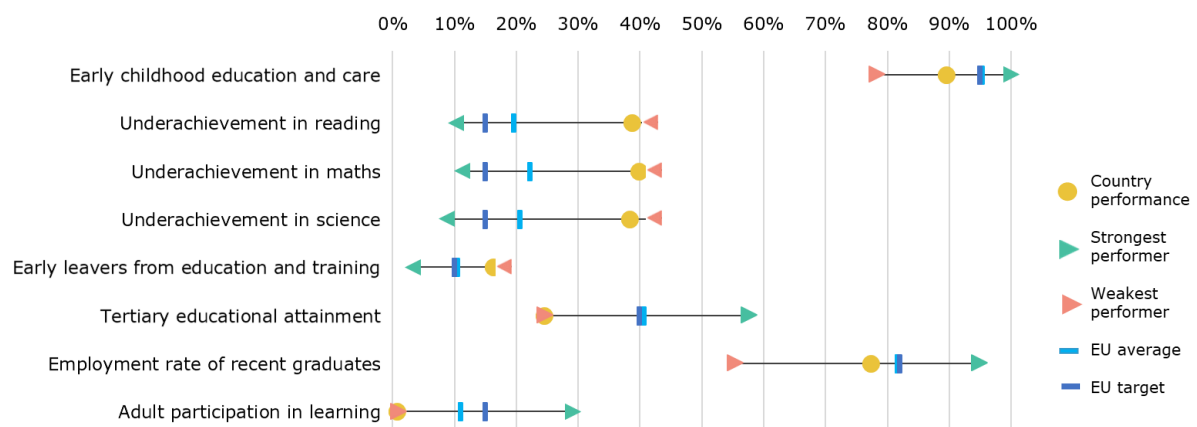
Source: DG EAC calculations, based on data from Eurostat (LFS 2018, UOE 2017) and OECD (PISA 2015).

2. Highlights

> ➢ Ideas for a major reform of the education and training system to address core challenges of quality, equity and labour market relevance have been put forward.
>
> ➢ Public spending on education is low, while investment needs in the sector are high. Any major reform is likely to require additional funding linked to stronger mechanisms for equity and efficiency.
>
> ➢ Better support for teachers – in particular redesigning initial teacher education and strengthening continuing professional development - can help improve outcomes for disadvantaged students.
>
> ➢ Efforts were made to expand dual education. Although participation in adult learning is still low, recent developments are a step forward.

3. A focus on teachers

The attractiveness of the teaching profession is rather low. There is respect for the profession: In the OECD's Teaching and Learning International Survey (OECD, 2019a), about 40.9% of teachers reported that they believe teaching to be a valued profession in society (EU-average: 17.7%). However, low entry requirements for teacher education programmes combined with low salaries have impacted on the attractiveness of the profession (OECD, 2017). Traditionally, teachers' salaries have been among the lowest in the public sector in Romania and among the lowest in the EU. However, since 2017, teachers' salaries have been increasing following a new salary grid for public sector employees[1]. The grid also reduced from 40 to 25 years the time needed to reach maximum pay and introduced higher bonuses for certain categories of staff, including teachers and school leaders in isolated localities.

Shortages of qualified staff are apparent in certain subjects, while the number of support specialists is insufficient. Shortages are reported for qualified staff in primary school teachers and for secondary school teachers in ICT, sciences, foreign languages and arts. The number of candidates in the national competition for teaching positions would normally be sufficient to fill vacancies but, as only 40% of candidates get the required mark, vacant positions are often filled in on a temporary basis by unqualified staff. The number of support specialists (e.g. special education teachers, school counsellors, Roma mediators etc.) is often insufficient. For example, a school counsellor is expected to work with 800 students but in practice the student/teacher ratio is 2.5 times higher, with large differences between rural and urban areas.

Teachers' career policies face important challenges. These challenges are analysed in a recent review (OECD, 2017). Initial teacher education offers very little preparation and practical training, particularly in modern teaching techniques or inclusive pedagogy. In practice, the certification exam (*definitivat*) and the tenure exam (*titularizare)* are used as the main method to screen candidates entering the profession. However, this has proved to be less effective than having high entry standards into and comprehensive initial teacher education. In itself, the certification exam tends to assess theoretical knowledge without being an authentic measure of on-the-job competence. Mentorship is not yet a part of the induction programme, for a number of reasons including lack of funding. The merit-based allowance tends to encourage teachers to focus narrowly on preparing pupils for tests and academic competitions, without encouraging teachers to improve the outcomes of low achieving students or those from disadvantaged backgrounds. Private tutoring is very common in Romania, especially linked to students' preparation for high stakes exams.

Strengthening continuing professional development gives an opportunity to improve the quality of teaching. Compared to many European countries that will see an important part of their teachers retiring within the next 10 years, in Romania less than 30% of teachers are older than 50. Therefore, raising teaching quality concerns primarily working with existing teachers; moreover, as the overall number of teachers is expected to decline in line with the student population, any reform of recruitment or initial teacher education will only impact a minority of the profession in the next decades (OECD, 2019b). A high percentage of Romanian teachers report

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[1]   Full implementation by 2022

taking part in professional development although the content and delivery of courses is not perceived as being sufficiently adapted to their needs (IŞE, 2018; OECD 2019b). 70% of teachers report that participation in continuing professional development is restricted by high costs – the highest percentage among the 23 EU countries surveyed in TALIS (EU-23: average: 44%). Romanian teachers reports a high development need in ICT skills for teaching (21,2%), approaches to individualised learning (21.5%), teaching students with special needs (35.1%) but also teaching in a multicultural setting (27.1%) and cross-curricular skills (22.8%) (OECD, 2019a).

4. Investing in education and training

Investment in education remains low in EU comparison and funding mechanisms to support equity are weak. In 2017, general government spending on education was equivalent to only 2.8% of GDP, significantly below the EU-average of 4.6% and the lowest percentage in the EU. This low level of funding reflects the underfunding of education policies at national and local levels and Romania's strong GDP growth in 2017 (+7%). Traditionally, underinvestment is particularly felt at the level of pre-university education[2]. Basic funding and existing correction coefficients are insufficient to meet schools' needs. As a result, excessive enrolment leading to overcrowding is often used as a solution by schools in rich urban areas to hire top teachers. Because schools in small cities and in rural areas tend to have less students and smaller classes, they are not able to attract highly qualified teachers even if they receive more funding per student. However, beyond this aspect, the attractiveness of schools in rural and disadvantaged areas for highly-qualified staff is usually limited. The system of complementary funding by local authorities tends to favour schools in richer municipalities, thus reinforcing inequalities in the system (Word Bank, 2018). Nevertheless, it should be said that the 2019 state budget envisaged a significant increase of almost 50% for education and training policies, including a 31% increase for salaries and other wage-related costs.

Figure 2 Percentage change in the number of students 2017/2007
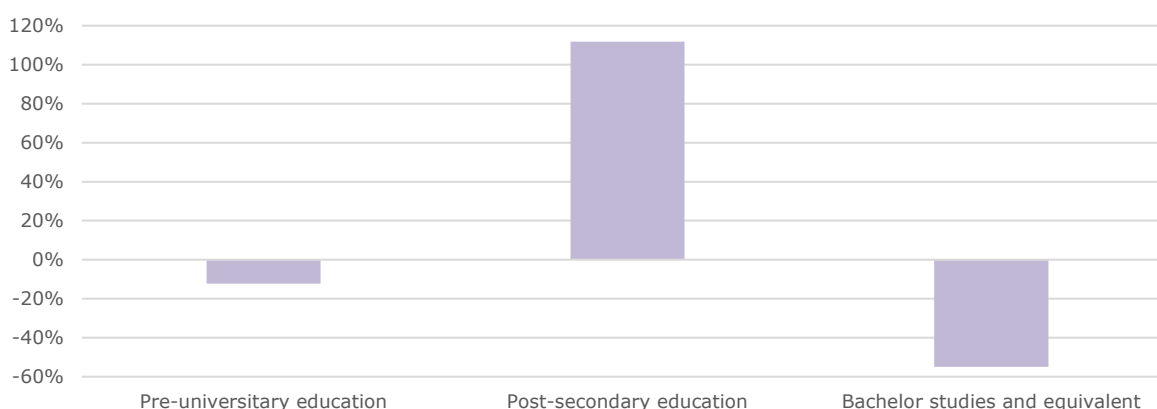
Source: National Institute for Statistics

The school network is lagging behind demographic trends and the need for modernisation is high. Since 2010, the number of students in pre-university education declined by a quarter. Faced with demographic decline, Romania closed down 25%[3] of its schools with legal personality and 17% of its satellite schools[4] between 2000 and 2016 (World Bank, 2018). However, 58% of schools, providing education for 34% of students, still have a surplus of building space compared to the number of students enrolled (MEN, 2018). The situation is particularly striking in rural areas, but some urban areas face similar challenges. In turn, 10% of schools, which provide education for 22% of students, are overcrowded. The need to improve sanitary conditions and provide students with modern learning spaces (e.g. science laboratories, gym halls, libraries) is also high (ibid). With declining demographic trends likely to persist and given the poor state of physical learning environments in many schools, a redesign of the school network could help improve efficiency and free-up resources for quality improvements. However, any plans to

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[2]   In 2016, about 57% of expenditure went to pre-university education (approx. 3 million students), while 41% of spending
        to universities for a number of students that was about 6 times lower (Word Bank, 2018)
[3]   The figures cover pre-school up to post-high schools, except special education schools.
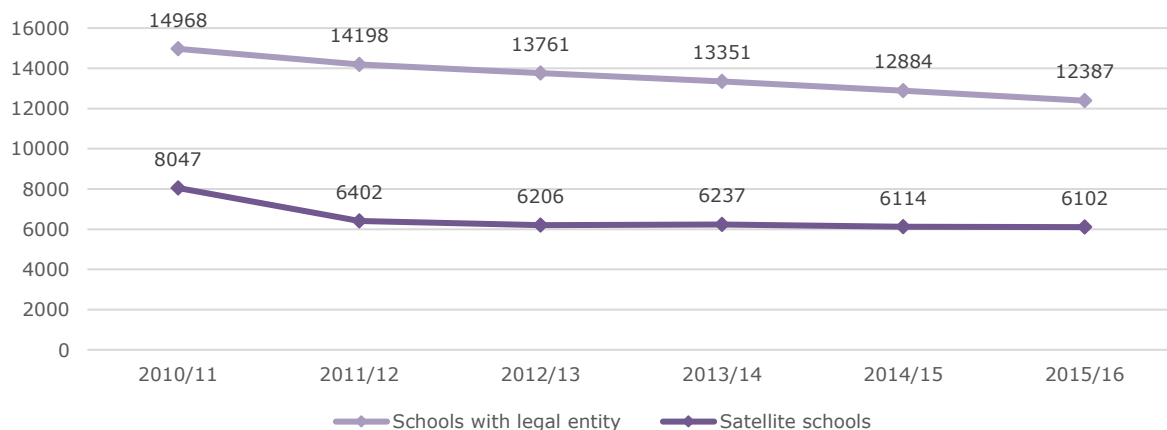[4]   Which account for 2/3 of the network

reorganize the school network need to take account of the already high equity challenges. These are echoed in low enrolment rates in early education and care for children from lower socio-economic groups, high early school leaving and high gaps in educational outcomes between schools with legal entity and satellite schools. Already, long walking distances to kindergartens in rural areas and commuting costs act as barriers to accessing quality education, while school transportation services are insufficient, particularly in rural areas.

> **Box 1: EU funds support the modernisation of educational infrastructure**
>
> Some EUR 300 million were earmarked in the programming period 2014-2020 under the European Regional Development Fund for investments in educational infrastructure in Romania. Priority is given to areas where enrolment rates in pre-school education are low and early school leaving is high. Investments in vocational education and training and higher education are also financed.
>
> In general, funding is available for modernisation of existing infrastructure, construction of new buildings and equipment. The funding scheme has raised a lot of interest from local and central government authorities and public universities. 80% of the allocation has already been spent and many requests are still pending.

Figure 3 Optimization of the school network, 2010-2016

Schools with legal entity: 14968 (2010/11), 14198 (2011/12), 13761 (2012/13), 13351 (2013/14), 12884 (2014/15), 12387 (2015/16)

Satellite schools: 8047 (2010/11), 6402 (2011/12), 6206 (2012/13), 6237 (2013/14), 6114 (2014/15), 6102 (2015/16)

Source: World Bank (2018)

5. Modernising early childhood and school education

Participation rates in early childhood education and care are improving but challenges linked to access and quality remain. Good quality early childhood education and care is crucial for the development of key competences. In Romania, the participation rate for children aged 4 to compulsory school age has been increasing and has reached 89.2% in 2017, but is still below the EU-average (95.4%). Disparities between regions[5] and between rural and urban areas[6] persist. To improve quality, the curriculum for children aged 0-3 and 4-6 years will be revised and aligned to the new school curriculum. For this purpose, a pilot project financed by the European Social Fund (ESF) was expected to start in September 2019. For the first time, a standard cost for nurseries was developed and awaits approval. Its implementation could pave the way for the expansion of services for children below the age of 3, for whom enrolment rates remain particularly low (16% in 2017, about half the EU-average), impacting negatively on labour market participation of women. This is due to a combination of factors, including lack of nurseries and other formal care arrangements.

Early school leaving is high with repercussions for the labour market and the economy. In 2018, the rate of early leavers from education and training (age group 18-24) decreased for the

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[5]   Participation rates ranging from 94.4% to in the North-West region to 77.5% in capital region of Bucharest
[6]   Gross enrollment rates in kindergarten (ages 3-6) was almost universal in urban areas (97.4%) compared to 85% in rural areas (National Institute for Statistics)

second consecutive year to 16.4%. Although well below the peak value of 19.1% recorded in 2016, the rate remains one of the highest in the EU (EU-average: 10.6%). Reaching the national target of 11.3% by 2020 is no longer possible. Early school leaving persists due to a combination of factors, including socio-economic aspects and gaps in the provision of quality education. In rural areas – where poverty is highest and the quality of education tends to be lowest - one in four people aged 18-24 has left school early. By contrast, the rate is 15% in towns and only 4.2% in cities. Authorities are currently developing an early warning mechanism that could help improve data collection and strengthen the coordination between schools, inspectorates and other relevant institutions (social assistance, NGOs, the police, the church, etc.). The duration of compulsory education was expanded in a bid to increase the number of years spent in formal education. Through a dedicated programme (*Merg la şcoală*) the budget for social-assistance measures increased substantially in 2019 to fund school supplies, transportation and extracurricular activities. The availability of second chance programmes is improving[7] but is still limited.

The acquisition of basic and digital skills is still problematic. About 40% of Romanian 15-year olds lack basic competences in either reading, mathematics or sciences (OECD, 2016). Implementation of the new school curriculum continues alongside the re-training of teachers. However, individualised approaches remain insufficiently developed. The percentage of young people (ages 16-19) who assess their digital skills as basic or above basic is below the EU-average (52% compared to 83% in 2017). There are substantially fewer highly digitally equipped and connected schools in Romania compared to the EU-average (EC, 2019b).

Improving equity in education remains a major challenge for the education system alongside raising quality. An analysis of 2015 PISA scores shows that most of the gap in performance between Romania and high performing EU-countries is explained by the clustering of poorer students in schools with other poor students; what is more, these schools typically provide lower quality education (World Bank, 2018). Equity challenges disproportionally affect Roma and students from rural areas, who tend to have lower educational outcomes. 60% of the positions held by non-qualified teachers are located in schools in rural areas. The percentage of Roma children attending kindergarten is less than half the national average; young Roma are more likely to drop out early from education (FRA, 2016). Three years after the adoption of the roadmap to tackle segregation in education, the monitoring methodology has still not been finalised. In this context, the 2019 country specific recommendations call on Romania to 'improve the quality and inclusiveness of education, in particular for Roma and other disadvantaged groups' (Council of the European Union, 2019).

Box 2: Plans to overhaul the education and training system

The Ministry of Education and the Presidential Administration have both put forward their vision for a comprehensive reform of the education and training system.

Education unites us: Among the proposals of the Ministry of Education is an overhaul of initial teacher education and a revision of teacher policies. Compulsory education would start at age 3 and end at 18 following five distinct stages, each lasting three years (preschool, lower primary, upper primary, lower secondary, upper secondary). The focus would be on building cognitive and socio-emotional skills and knowledge in different subjects but also on overcoming learning gaps through personalised learning. Four types of baccalaureate are envisaged: A1 and A2 for sciences and humanistic studies, V for vocational education and T for the professional track - the latter giving access only to non-tertiary education.

Educated Romania: Following a two-year consultation process, the Presidential Administration put forward two scenarios for the revision of the school structure. Teachers would play a key role in the reform whose overarching aims are to improve quality and equity in education. Modernisation proposals are made around seven key topics: the teaching professions, equity, school leadership, vocational education and training, higher education, early education and care and student evaluation. The objective of the Presidential administration is to gain political support for the reform which requires the support of the government.

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[7] An ESF financed project was recently launched

6. Modernising higher education

Participation in higher education is generally low and especially for students from disadvantaged backgrounds. In 2018, tertiary attainment for the age-group 30-34 – measured as a European benchmark– declined to 24.6% from 26.3% in 2017. This is significantly below the EU-average of 40.7% and below Romania's national Europe 2020 target of 26.7%. Gross enrolment rates have not only remained low but have been decreasing since 2009 (European Commission, 2018). The number of students entering higher education is limited by factors including demographics, the persistence of early school leaving and a low, though improving, passing rate at the baccalaureate exam. The Romania Upper Secondary project (ROSE), which aims to reduce drop-out and improve the transition to higher education by giving grants to low performing high-schools, continues and has yielded some positive results in targeted high-schools. Overall, students from disadvantaged backgrounds, Roma, rural areas as well as students with disabilities are underrepresented in higher education. Less than 5% of students enrolling in a bachelor programme come from families where their parents' level of education is low (European Commission, 2018). To improve access, dedicated places for students from rural areas were introduced, while the policy of dedicated places for Roma students continues.

Ensuring that graduates possess high quality, labour market relevant skills remains a challenge. The ICT sector is expected to continue to grow in the coming years in Romania but it will face labour shortages; skills shortages also exist in the sector of health professionals, skilled trades, engineering, transport and distribution (Manpower Group, 2015; Cedefop 2017; Cedefop 2018). The number of graduates in science, technology, engineering and mathematics (STEM) is low. This poses a challenge to the innovative potential of the Romanian economy. Employers report that graduates often lack soft skills but possess good, though overly theoretical, knowledge (World Bank, 2018b). Entrepreneurship education is often limited to students in economics and business administration and the participation of the business sector is low (OECD, 2019c). A revision of accreditation standards in masters' programmes is expected to be completed. Work on developing the methodology for external evaluation of PhD programmes has continued, although the reaccreditation of doctoral schools is still pending. The employment rate of recent tertiary education graduates is high and increasing (89% in 2018, EU-average: 85.5%), but these figures should be seen against the low number of graduates and the high economic growth registered in 2018. There is no global or sectorial assessment of skills needs (European Commission, 2019b). Authorities developed a methodology to track whether graduates occupy jobs requiring a higher education degree in their field of study but for the moment no graduate tracking system is in place. The 2019 country specific recommendations also call on Romania to 'improve skills, including digital, notably by increasing the labour market relevance of vocational education and training and higher education' (Council of the European Union, 2019).

7.   Modernising vocational education and training

Efforts to expand the provision of dual vocational continue but the labour market relevance of vocational education and training (VET) remains limited. The total enrolment in upper secondary VET in Romania was stable at 56.2% in 2017 and also above the EU average of 47.8%. Students enrolled in VET had limited exposure to work based learning, with only 10% of students enrolled in combined school and work-based programmes. The level of employability of recent VET graduates in 2018 saw a slight increase to 69.0% (67.2% in 2017), but remains below the EU average (79.5%). The most popular professions among students were car mechanics and waiters (MEN, 2018). To increase the attractiveness of professional education, students in this route receive a scholarships. Out of the VET students enrolled at upper secondary education level in 2017/2018, 1.5% chose the dual VET pathway, which is currently only provided at the European Qualification Framework (EQF) level 3. Despite strong interest from businesses, dual education is rather unattractive for students. Retaining students in the companies is difficult and the required financial investment by companies is high. The recruitment rules for VET school teachers are being improved and simplified. Some efforts were made to upgrade teacher competences and to develop the initial and continuing training of in-company trainers.

8.   Developing adult learning

Recent developments represent a step forward in promoting adult learning. The national programme *'Invest in yourself'* offers financial support for accessing education, training and culture through a state guaranteed loan. The recent policy documents offering a long-term vision for

education, '*Educated Roma*nia' and '*Education unites us'*, include references to lifelong learning, although not in a consistent way and not specifically to adult learning. To facilitate access to upskilling for low-qualified adults, the level of qualification 1 was introduced in the National Qualifications Framework. The classification 'unqualified workers' was renamed 'elementary occupations' and a list of such occupations was developed. Government Ordinance 96/2018 introduced the possibility of a six-month apprenticeship programme at EQF level 1. However, these programmes are not yet available.

The need for upskilling is high. Nearly 2.4 million adults (aged 25-64) had only a low-level of educational attainment in 2017). This corresponds to 21.5% of adults in Romania (similar to the EU-average). Also, the share of low-qualified adults in employment in Romania (55.6%) was close to the EU average of 56.8%, in 2018. However, the likelihood that adults update their knowledge and skills through adult learning is low. In 2018, only 0.9% of adults aged 25-64 have had a recent learning experience during the last four weeks preceding the survey (EU average: 11.1%). This is particularly worrying, given the much smaller number of jobs which require only a low level of education: in 2017, there were 824 000 of such jobs belonging to elementary occupations, which clearly highlights the need for substantial up-skilling and re-skilling.

Further efforts are needed in order to increase participation in adult learning. Community centres for adult education are still to be extended and quality assurance mechanisms have not been developed yet. A system for continuing professional development of adult learning professionals is not yet in place. The system of adult learning might also benefit from a more reliable and comprehensive data collection system, clearer institutional arrangements and the establishment of a coordination body.

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10. Annex I: Key indicator sources

Indicator	Eurostat online data code
Early leavers from education and training	edat_lfse_14 + edat_lfse_02
Tertiary educational attainment	edat_lfse_03 + edat_lfs_9912
Early childhood education and care	educ_uoe_enra10
Underachievement in reading, maths, science	OECD (PISA)
Employment rate of recent graduates	edat_lfse_24
Adult participation in learning	trng_lfse_03
Public expenditure on education as a percentage of GDP	gov_10a_exp
Expenditure on public and private institutions per student	educ_uoe_fini04
Learning mobility: - Degree mobile graduates - Credit mobile graduates	JRC computation based on Eurostat / UIS / OECD data

11. Annex II: Structure of the education system
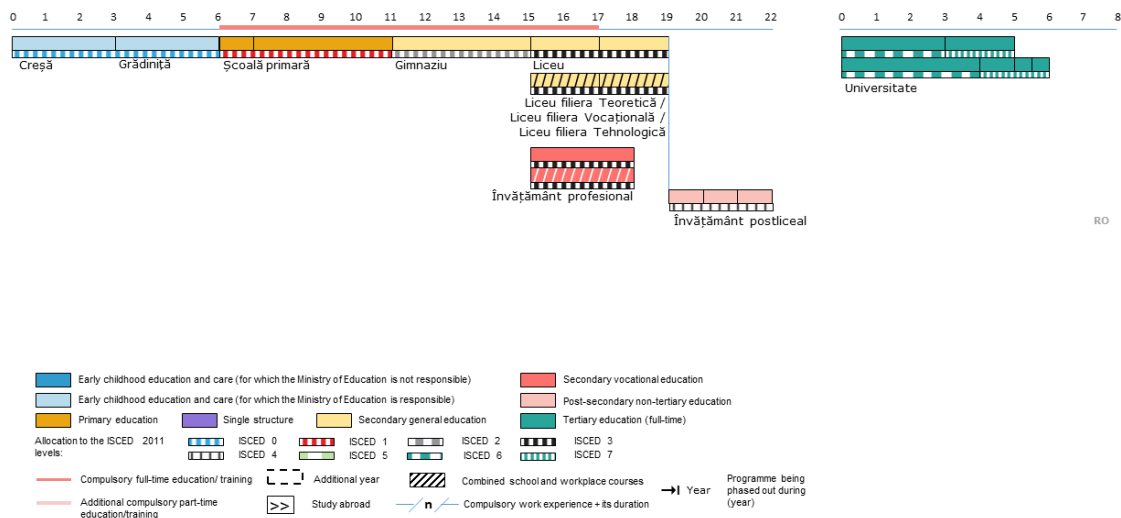
Source: European Commission/EACEA/Eurydice, 2018. The Structure of the European Education Systems 2018/19: Schematic Diagrams. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union.

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