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EUROPEAN COMMISSION

Education and Training Monitor 2018

Sweden

Volume 2 of the Education and Training Monitor 2018 includes twenty-eight individual country reports. It builds on the most up-to-date quantitative and qualitative evidence to present and assess the main recent and ongoing policy measures in each EU Member State, with a focus on developments since mid-2017. It therefore complements other sources of information which offer descriptions of national education and training systems.

Section 1 presents a statistical overview of the main education and training indicators. Section 2 briefly identifies the main strengths and challenges of the country's education and training system. Section 3 looks at investment in education and training. Section 4 focuses on citizenship education. Section 5 deals with policies to modernise school education. Section 6 discusses measures to modernise higher education. Finally, section 7 covers vocational education and training, while section 8 covers adult learning.

The manuscript was completed on 1 September 2018.

Additional contextual data can be found online (ec.europa.eu/education/monitor)

1. Key indicators

		Sweden		EU average		
		2014	2017	2014	2017	
Education and training 2020 benchmarks						
Early leavers from education and training (age 18-24)		6.7%	7.7%	11.2%	10.6%	
Tertiary educational attainment (age 30-34)		49.9%	51.3%	37.9%	39.9%	
Early childhood education and care (from age 4 to starting age of compulsory primary education)		95.9% ¹³	95.6% ¹⁶	94.2% ¹³	95.3% ¹⁶	
Proportion of 15 year-olds underachieving in:	Reading	22.7% ¹²	18.4% ¹⁵	17.8% ¹²	19.7% ¹⁵	
	Maths	27.1% ¹²	20.8% ¹⁵	22.1% ¹²	22.2% ¹⁵	
	Science	22.2% ¹²	21.6% ¹⁵	16.6% ¹²	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)	85.0%	88.3%	76.0%	80.2%	
Adult participation in learning (age 25-64)	ISCED 0-8 (total)	29.2%	30.4%	10.8%	10.9%	
Learning mobility	Degree mobile graduates (ISCED 5-8)	:	4.1% ¹⁶	:	3.1% ¹⁶	
	Credit mobile graduates (ISCED 5-8)	:	10.2% ¹⁶	:	7.6% ¹⁶	
Other contextual indicators						
Education investment	Public expenditure on education as a percentage of GDP	6.6%	6.6% ¹⁶	4.9%	4.7% ¹⁶	
	Expenditure on public and private institutions per student in € PPS	ISCED 1-2	€8 069	€8 273 ¹⁵	€6 494 ^d	: ¹⁵
		ISCED 3-4	€8 044	€8 285 ¹⁵	€7 741 ^d	: ¹⁵
		ISCED 5-8	€17 675	€18 240 ¹⁵	€11 187 ^d	: ¹⁵
Early leavers from education and training (age 18-24)	Native-born	5.7%	6.2%	10.4%	9.6%	
	Foreign-born	12.6%	15.5%	20.2%	19.4%	
Tertiary educational attainment (age 30-34)	Native-born	51.6%	51.5%	38.6%	40.6%	
	Foreign-born	45.6%	51.2%	34.3%	36.3%	
Employment rate of recent graduates by educational attainment (age 20-34 having left education 1-3 years before reference year)	ISCED 3-4	79.7%	84.4%	70.7%	74.1%	
	ISCED 5-8	90.8%	91.7%	80.5%	84.9%	

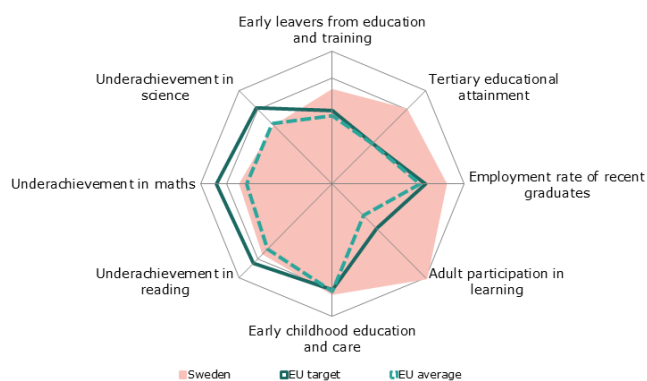
Sources: Eurostat (see section 10 for more details); OECD (PISA).

Notes: data refer to weighted EU averages, covering different numbers of Member States depending on the source; d = definition differs, 12 = 2012, 13 = 2013, 15 = 2015, 16 = 2016.

On credit graduate mobility, the EU average is calculated by DG EAC on the available countries; on degree graduate mobility, the EU average is calculated by JRC over Eurostat and OECD data.

Further information can be found in the relevant section of Volume 1 (ec.europa.eu/education/monitor).

Figure 1. Position in relation to strongest (outer ring) and weakest performers (centre)



Source: DG Education and Culture calculations, based on data from Eurostat (LFS 2017, UOE 2016) and OECD (PISA 2015). Note: all scores are set between a maximum (the strongest performers represented by the outer ring) and a minimum (the weakest performers represented by the centre of the figure).

2. Highlights

- Sweden invests heavily in education, with general government expenditure on education among the highest in the EU.
- Students' participation in democratic processes, civic skills and knowledge of values are among the highest in international comparisons.
- The basic skills proficiency of the younger generation has improved but growing inequality in the school system and teacher shortages are a concern.
- Sweden has one of the highest tertiary educational attainment rates and one of the highest employment rates of recent tertiary graduates in the EU.
- Sweden's high-performing adult learning and continuing training systems continue to be modernised.

3. Investing in education and training

Sweden is among the countries that invest most in education. General government expenditure on education was among the highest in the EU in 2016, as a proportion both of GDP (6.6 %) and of total general government expenditure (13.4 %). Education expenditure, at constant prices, increased by 17 % during 2012-2016. Compulsory education (age 7-16) saw the highest increase, by 28 %, while expenditure on pre-school education increased by 19 %¹ and on tertiary education by 8 %. Although overall expenditure on upper secondary education (age 17-19) has fallen by 6 % since 2012, expenditure per pupil has increased by 15 % (Statistics Sweden, 2017).

Sweden invests more in tertiary education than the EU average. Total expenditure on the higher education sector, including research, the costs of government managing agencies and study support to students, corresponds to 1.53 % of GDP. The largest proportion of funding (80 %) comes from public sources. Private funding is mainly in the form of additional funding for research (SHEA, 2018b).

Sweden operates a school choice system whereby funding follows the student. The organisation and financing of pre-school, compulsory and upper secondary education is fully decentralised to municipalities. All schools are publicly funded regardless of whether they are municipally or independently operated²: private providers receive subsidies equivalent to the local municipality's spending per municipal school student. Independent schools cannot charge fees or select students based on ability, but they are allowed to operate for profit. The funding mechanism should account not only for the number of students enrolled but also their needs based on socio-economic background. However, there are major variations between municipalities in how they allocate resources (OECD, 2016 and Swedish Agency for Public Management, 2016).

The government increasingly tries to steer municipalities through specifically allocated grants. In 2017, the total direct central government investment in education was SEK 15 billion (EUR 1.46 billion), representing about 15 % of school funding, allocated in the form of over 70 different grants. This wide range of grants seems inefficient because it shifts the focus from the needs of the school system as a whole to the details of the system. Administering the grants is disproportionately complicated and puts pressure on smaller municipalities. Merging the range of grants into one, which each education provider can apply for based on local needs and socio-economic conditions, could be a way forward (National Audit Office, 2017).

Sweden's youth population is expected to grow further in the coming 10 years. Between 2010 and 2016, the number of pupils in compulsory school increased by 16 %, from 886 000 to over 1 million. By 2028, the number of children and young people is expected to grow by 231 000, including 73 000 more pupils in upper secondary school. This is due both to the large number of newly arrived students in recent years and an increase in the number of Swedish-born children.

¹ Children enrolled in pre-schools increased by 4 % in 2012-2016.

² Over the years, independent schools have increased their share of enrolments. In 2016/2017, one in seven compulsory school students and more than one in four upper secondary students attended independent schools.

One in three children born in the next 10 years is expected to have a foreign-born mother and one in four students in upper secondary education to be foreign-born (Statistics Sweden, 2018). The rapid increase in the school population is likely to put pressure on the resources of municipalities and of the whole school system.

4. Citizenship education

Citizenship education plays a central role in the school system. Sweden's fundamental democratic values are described in the two main governing documents, the Education Act and the school curricula. Both state that democratic values and students' democratic participation should be as central to their education as knowledge of the different subjects. Democratic values include: the inviolability of human life, individual freedom and integrity, the equal value of all people, gender equality and solidarity. Children should acquire knowledge of how a democratic society functions and their views should be heard. Values are a common thread when teaching is planned and implemented, and they underpin all school activities. Students are given formal democratic influence through student councils, where they learn how democratic decision-making works in practice (NAE, 2016). Teachers and school heads can call on online course packages on collaborative learning, critical thinking, media literacy and democratic values (Eurydice, 2017).

Swedish students have strong civic skills. According to the 2016 International Civic and Citizenship Education Study (ICCS) by the International Association for the Evaluation of Educational Achievement (IEA)³, Swedish eighth grade students have excellent civic skills and a very good understanding of concepts related to citizenship and democracy (comparable countries are Denmark, Taiwan and Finland). Their average score of 579 points is 62 points above the average for the 20 participating countries. Sweden is also one of the countries where performance improved most since the previous 2009 survey: the proportion of students with the highest level of skills has increased from 40 % to 58 %⁴. However, gender and students' socio-economic and migration background have an important impact. Girls perform better than boys, while the gap between socially advantaged and disadvantaged students is on average 120 points; between Swedish-born and foreign-born students it is 71 points. Swedish students' answers to questions on values show that they are more supportive than those of any other country of equal opportunities for women and men and of giving migrants the same rights and opportunities as to others (NAE, 2017a and IEA, 2017).

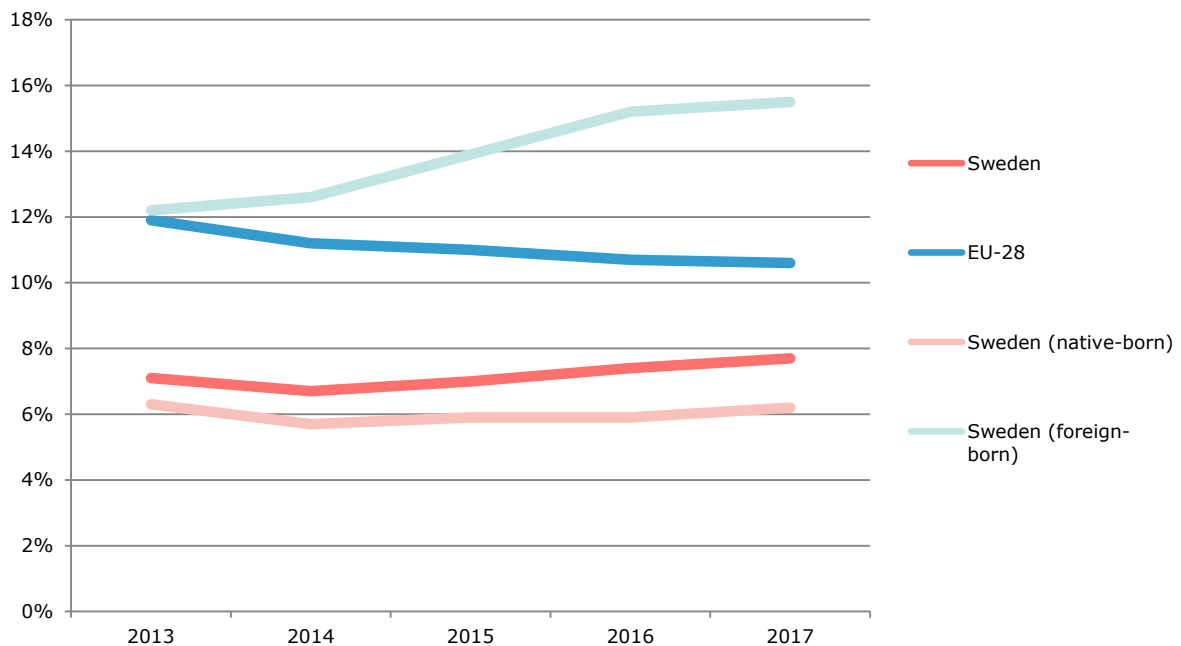
Classroom atmosphere is vital in determining students' level of civic skills. High expectations imposed on schools, both in the Education Act and the syllabus, and the cross-curricular approach both in general and vocational education, all contribute to the good results. An open classroom atmosphere, where teachers encourage discussion and allow students to express their opinions, has an important impact on students' civic skills — three times bigger than keeping up with the news, for instance (NAE, 2010). Teachers in Sweden also value working in classrooms where diversity is seen as an asset, as this creates a better learning environment (NAE, 2004).

5. Modernising school education

Sweden's early school leaving (ESL) rate is relatively low but challenges for municipalities remain. The ESL rate is below the EU average (7.7 % vs 10.6 % in 2017), although it has increased since 2014 and there is a growing difference between native-born students (6.2 %) and those born abroad (15.5 %) (Figure 2). Since 1 January 2015, municipalities are required to keep records of young people under the age of 20 who have not completed upper secondary school and are not in education, and to provide them with tailor-made support. Over 75 000 young people were registered and eligible to benefit from such support in the first half of 2017. The majority, 59 %, were men and one in three was newly arrived. However, three quarters of municipalities offered fewer than half of the young people at least one programme; 70 municipalities — one in four — have offered a measure to fewer than 10 % of them. 'Introductory programme' at upper secondary level is the most common measure, designed to help students bridge the gap to the labour market or further education (NAE, 2017c).

³ ICCS reports on students' knowledge related to concepts of citizenship, equity, decision-making and civic self-image. In ICCS 2016 the civic knowledge scale was set to a metric with a mean of 500 (the average score of countries participating in ICCS 2009).

⁴ 58 % of students are at the highest 'level A' and only 5 % of students are in the two lowest proficiency levels, 'level D' and 'below level D'.

Figure 2. Proportion of early leavers from education and training in 2017 (%)


Source: Eurostat (LFS, 2017). Online data codes: [edat_lfse_02](#) and [edat_lfse_14](#).

Early childhood education and care (ECEC) has undergone a quality review. Participation rates are high: 95.6 % from age 4. ECEC is well developed, with a curriculum balancing academic and socio-emotional development, reflecting parental opinions and expectations and addressing respect for cultural values. A revised curriculum is expected to enter into force in autumn 2019, clarifying ECEC's educative role and seeking to improve quality. While teaching will be strengthened, the emphasis will remain on playful and cooperative learning (NAE, 2018b). From autumn 2018, 'pre-school class' is a mandatory part of the compulsory school system⁵, with more teaching content to better prepare children for their first school year.

Basic skills attainment has improved. According to the OECD's 2015 Programme for International Student Assessment (PISA) survey, student performance improved significantly in mathematics and reading compared to 2012, and remained broadly stable in science. On average 11.4 % of 15 year-olds are low achievers in all three domains, lower than the EU average of 12.3 %. Girls and boys perform similarly in science and mathematics, but in reading twice as many boys (24 %) as girls (12 %) are low achievers, a wider gap than the EU average. The proportion of top performers has increased: in 2015, 3.9 % of 15 year-olds were top performers in all three subjects, just above the EU average of 3.7 %. The literacy skills of Swedish fourth-graders (age 10) have also improved, according to IEA's 2016 Progress in International Reading Literacy Study (PIRLS). Students' reading comprehension of both factual text and literature is equally good and their proficiency is back at the 2001 level, Sweden's best ever performance. As in PISA, girls significantly outperform boys (NAE, 2017b).

The National Digitisation Strategy for the school system should enable all children to develop adequate digital skills by 2022. The digital skills of the Swedish population are already among the best in the EU and continue to improve. In 2017, 77.2 % of 16-74 year-olds had at least basic digital skills, well above the 57.2 % EU average. Among 16-24 year-olds the proportion was 89.5 %. The digitisation strategy for compulsory and upper secondary schools focuses on understanding digital tools and media, digitisation's impact on society and individuals, ensuring critical and responsible behaviour, problem solving and translating ideas into action using digital technology (Government, 2017). To implement the strategy, a revised curriculum entered into force on 1 July 2018. Programming is taught through mathematics and digital skills in general through mathematics, civics, Swedish and technology (DESI, 2018).

⁵ The amendment of the Education Act (2010:800) entered into force on 1 January 2018.

Inequalities are growing in Sweden's school system. The growing impact of socio-economic background on students' performance is shown in PISA 2015. The performance gap between foreign-born and native-born students is wide and increasing, reflecting changes in the composition of the foreign-born student population. A higher proportion of recent migrants are older and those who migrated after the age of 7 have increasingly come from countries with weaker school systems. Parents' socio-economic status paired with the neighbourhood of residence is strongly associated with the size of the performance gap. Increased sorting of pupils between schools since the 1990s has also contributed to growing inequalities; other factors such as class size or teachers' formal qualifications seem to be less important (Grönqvist et al., 2017). To reduce inequalities, the government is allocating to municipalities an additional SEK 1 billion (EUR 104 million) in 2018, SEK 3.5 billion (EUR 365 million) in 2019 and SEK 6 billion (EUR 627 million) in 2020. The additional funding is weighted by pupils' socio-economic background, as recommended by the Swedish School Commission (SOU, 2017).

The growing teacher shortage coupled with a high proportion of unqualified teachers is a major concern. The teacher shortage, mostly in pre-schools and compulsory schools, is largely due to demographics. To meet the growing demand, in the coming 5 years 77 000 teachers will need to be recruited; by 2031 the total will be 187 000 full-time teachers and pre-school teachers. However, based on current patterns, only about 145 000 will graduate by 2031, leaving a shortfall of over 40 000 (NAE, 2017d). As already one in four new university students is studying to be a teacher, other options need to be explored. These include faster employment of teachers with a foreign qualification, employing retired teachers, closer collaboration between teachers and schools in the same municipality and more effective use of distance education (SALAR, 2018). In addition, the proportion of unqualified teachers has hardly changed in recent years despite stricter requirements by the legislator⁶. In 2017/2018, close to 30 % of teachers in compulsory schools and 20 % of teachers in upper secondary schools taught without qualification; the highest rate was among those teaching Swedish as a second language (NAE, 2018a). To make the profession more attractive, the government continues to support teachers' continuing professional development and to increase the financial incentives to enrol.

Box 1: Cooperation for the Best School possible

'Cooperation for the Best School possible' (*'Samverkan för bästa skola'*) is Sweden's most significant government initiative to tackle inequalities. The National Agency for Education works closely with schools to improve their teaching and ultimately the learning outcomes of pupils. Support is targeted at schools that face the most severe challenges in providing high quality teaching and where a high proportion of pupils do not complete their education. The schools, identified by the National Agency for Education and the Swedish School Inspectorate, are offered tailor-made support that is practice-oriented, based on evidence and experience and is accompanied by teachers' professional development. Scientific advice is provided by a group of universities led by the University of Stockholm. A development plan with responsibilities, milestones, attainment targets and evaluation is agreed between the Agency and the school provider.

The initiative, launched first in compulsory and upper secondary schools in 2015, has been broadened and from 2017 pre-schools can also participate. The Agency estimates that the programme will reach 71 school providers, 245 schools and 57 pre-schools in 2018, and 110 school providers, 305 schools and 102 pre-schools by the end of 2019. The programme cost over SEK 64 million (EUR 6.2 million) in 2016 before it was increased.

Surveys show that the programme is highly valued and school heads believe that it will lead to more collaborative learning among teachers, better school outcomes for pupils and improved equity between and within schools. More information is at <https://www.skolverket.se/skolutveckling/samverkan-for-basta-skola>

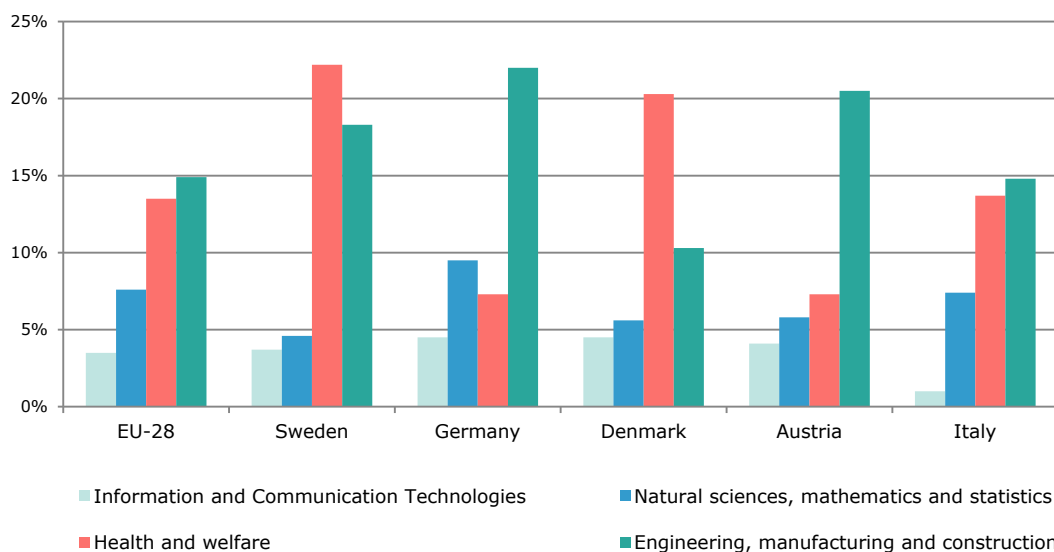
⁶ Since 2011, teachers should be 'accredited' in the subjects they teach and since autumn 2016 unqualified teachers can neither have permanent employment contracts nor grade their pupils.

6. Modernising higher education

Sweden's tertiary educational attainment rate is at an all-time high. 51.3 % of 30-34 year-olds completed tertiary education, above both the EU average of 39.9 % and the national Europe 2020 target of 45-50 %. The upward trend is slowing, however, as entrants fell from their 2009/2010 peak of 107 000 to 86 000 in 2016/2017. The proportion of foreign-born students⁷ is rising: in 2016/2017, 24 % had a foreign background compared to 18 % 10 years ago (SHEA, 2018c). The total of foreign students, including fee-paying ones, has also started to increase, following a heavy drop in 2011/2012 when tuition fees were introduced for students from outside the EU/EEA and Switzerland. In doctoral programmes more than one in three students enrolled come from abroad, and the majority leave once they have obtained their degree. The average age of university entrants has traditionally been high but the proportion of entrants aged 21 or less has grown to 50 %. Similarly, graduates are also younger than 10 years ago, with a median age of 26.7 years in 2016/2017 (SHEA, 2018b).

The employment rate of recent tertiary graduates is among the highest in the EU. In 2017, 91.7 % of graduates aged 20-34 were employed, above the EU average of 84.9 %⁸. While they enjoy good labour market outcomes, their earnings premium over non-graduates are the lowest in OECD and EU countries (OECD, 2017). Study programmes in health and engineering, which guarantee practically full employment, are the most preferred options. The proportion of graduates in the other STEM fields — natural sciences, mathematics and statistics, and information and communications technology (ICT) — is, on the other hand, at or below the EU average (Figure 3). In particular the insufficient supply of ICT graduates could become a bottleneck for Sweden's economy. A doctoral degree, especially in engineering and technology, leads to a good job: over 80 % of those with a PhD have a well-paid job 3 years after obtaining the degree (SHEA, 2018a).

Figure 3. Proportion of graduates by programme orientation (ISCED 5-8)



Source: Eurostat. Online data code: [educ_uoe_grad02](#).

The government is investing in broadening participation. Between 2015 and 2021, around 100 000 new study places will be financed in higher education, higher vocational education and adult vocational education as part of the government's 'Knowledge Boost' initiative. The government has also increased students' study support. From 1 July 2018, students in full-time studies can receive up to SEK 11 300 (EUR 1 178) per month, in a combination of a study grant and a study loan. Since 2017 a new quality assurance system is in place, developed by the Swedish Higher Education Authority in conjunction with the sector. A government inquiry into the

⁷ Foreign background refers to individuals who were born outside Sweden and those who were born in Sweden but whose parents are both foreign-born; foreign students coming to study in Sweden are not included.

⁸ People aged 20-34 who left tertiary education between one and three years before the reference year.

governance and financing of higher education is tasked with developing a system that allows more people from disadvantaged backgrounds to enter higher education and to strengthen links between research, study programmes and society. Another ongoing inquiry is working on a proposal for a national strategy for internationalisation of higher education.

7. Modernising vocational education and training

Despite efforts to make vocational education and training (VET) more attractive, participation by upper secondary students has declined (from 47 % in 2013 to 37 % in 2016, against the EU average of 49 %). By contrast, the employment rate of recent upper secondary VET graduates, at 87.8 % in 2017, is well above the EU average of 76.6 %. The government is addressing proposals made by the Upper Secondary School Investigation (SOU, 2016) with the aim that all young people begin and complete upper secondary education. Upper secondary VET should become more attractive and the first choice for more students. To this end, the National Agency for Education has reviewed several upper secondary programmes to better align them with the needs of the jobs market.

8. Promoting adult learning

Sweden has continued to modernise its high-performing adult learning and continuing training systems, including by dividing programmes into separate modules. Participation in learning by adults aged 25-64 is the highest in the EU and still growing: in 2017, 30.4 % compared to the EU average of 10.9 %. According to the Continuing Vocational Training Survey, in 2015, 93.1 % of Swedish companies (well above the EU average of 72.6 %) provided vocational training to their employees and 52.2 % of employees participated in training (above the EU average of 40.8 %). The majority of Swedish companies said the main skills needed for developing the business are customer handling skills and technical, practical and job-specific skills. A 2016 initiative introduced 'vocational packages' for adults. These are intended to be clusters of courses constituting building blocks that can be transferred and accumulated towards a full qualification. In 2017, the measure was extended to 'introductory programmes' targeting young people, many of them newly arrived migrants, who are not eligible to enter an upper secondary 'national' VET programme. Since 2017, municipalities are required to form a consortium with at least two other municipalities when they apply for state grants in adult education. The objective is to increase cooperation between municipalities, both in planning and delivery, to secure a broad supply matching the needs in the region.

Box 2: 'InVäst' improves the integration of newly arrived migrants

'InVäst' — 'Integration Western Sweden' (2016-2019) aims to build municipalities' capacity to receive and integrate newly arrived adults. By raising municipal employees' awareness and level of competences, the project will improve migrants' living conditions and quality of life.

The areas of focus are:

1. Language as a key to active participation in society

To improve Swedish Tuition for Immigrants (SFI), the staff of 40 schools teaching Swedish to the newly arrived will receive help, including organisational management and collaborative learning, in developing migrants' competences. A web-based platform with tutorials is under development.

2. Knowledge assessment

To ensure that newly arrived adults receive the right training, support material has been developed on how to assess both formal and informal knowledge and competences acquired in the country of origin. A reference group has been tasked with gathering best practices on knowledge assessment.

3. Forums

To improve intercultural knowledge and encourage exchange of ideas, meetings are organised for employees of organisations participating in the project. Discussions focus on how to communicate between languages and cultures, how to prevent racism and how to integrate migrants into the world of work.

'InVäst' is implemented by the Gothenburg Region Association of Local Authorities, in cooperation with the regions of Skaraborg, Borås and Halland. It is co-financed by these regions and the European Social Fund. With a budget of over SEK 18 million (EUR 1.75 million), it will reach over 1 200 participants.

More information is at
<https://www.grkom.se/toppmenyn/dettajobbargrmed/skolautbildning/nyanlandaslarande/invastintegrationsvastsverige.4.624218c15ea17395f51aea6.html>

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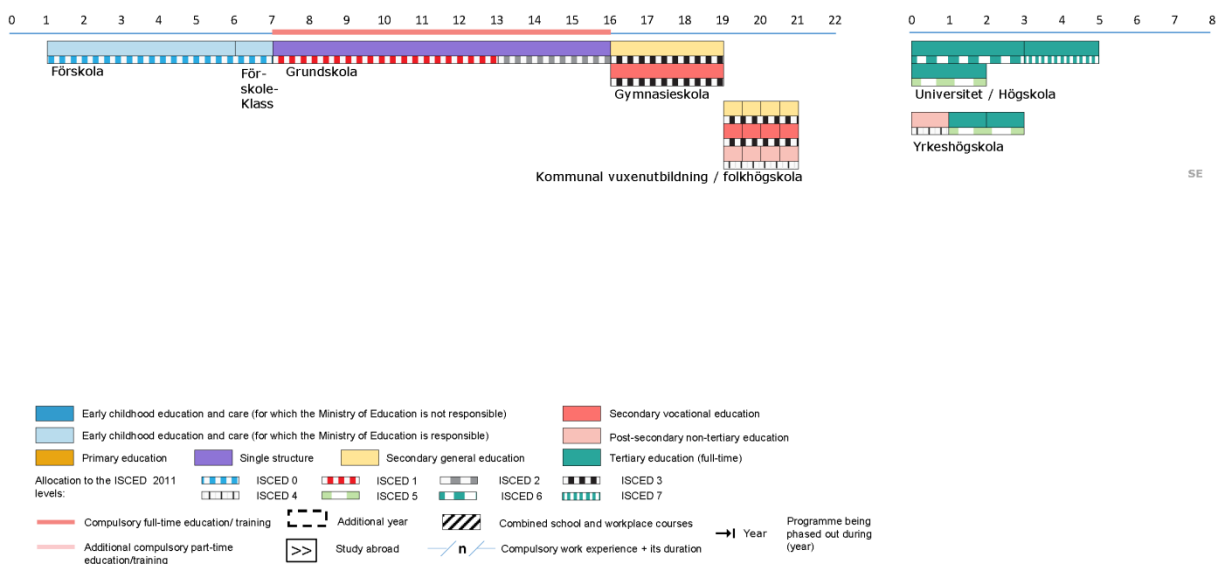
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10. Annex I: Key indicator sources

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	JRC computation based on Eurostat / UIS / OECD data
Credit mobile graduates	educ_uoe_mobc02

11. Annex II: Structure of the education system



Source: European Commission/EACEA/Eurydice, 2017. *The Structure of the European Education Systems 2017/18: Schematic Diagrams*. Eurydice Facts and Figures. Luxembourg: Publications Office of the European Union.

Comments and questions on this report are welcome and can be sent by email to:
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