European Commission

Education and Training Monitor 2013

Estonia

Education and Training

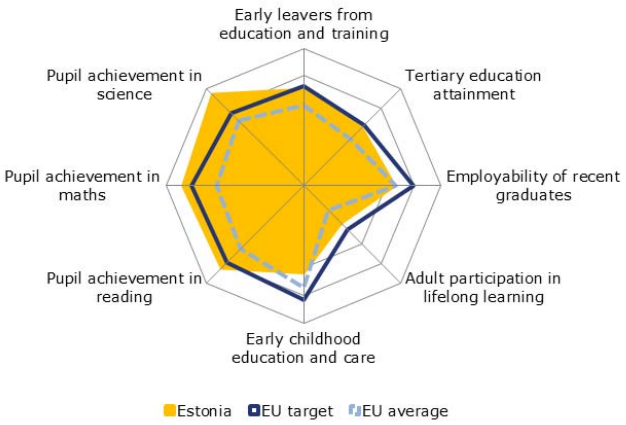
1. Key indicators and benchmarks

Europe 2020 headline targets			Estonia 2009	Estonia 2012	EU average 2009	EU average 2012	Europe 2020 target / Benchmark
1. Early leavers from education and training (age 18-24)			13.9%	10.5%	14.2% EU28	12.7% EU28	**EU target: 10%** National target: 9.5%
2. Tertiary educational attainment (age 30-34)			35.9%	39.1%	32.1% EU28	35.7% EU28	**EU target: 40%** National target: 40%
ET 2020 Benchmarks							
3. Early childhood education and care (4 years old - year before start of compulsory primary)			95.7%	89.1% 11	91.7%	93.2% 11	**95%**
4. Basic skills Low achievers (15 year-olds; Level 1 or lower in PISA study)	Reading		13.3%	:	19.6%	:	**15%**
	Mathematics		12.7%	:	22.2%	:	**15%**
	Science		8.3%	:	17.7%	:	**15%**
5. Learning mobility	Initial vocational training (IVET)	**a.** Students participating in Leonardo da Vinci programs as a share of vocational students at ISCED 3	2.5%	2.6% 11	0.6%	0.7% 11	
	Higher Education	**b.** Erasmus inbound students as % of student population in host country		1.2% 11		1.1% 11	
		c. Inbound degree mobile students as % of student population in the host country		2.1% 11		7.0% 11	
6. Employment rate of graduates (age 20-34) having left education 1-3 years before reference year			67.6%	75.1%	78.3%	75.7%	**82%**
7. Adult participation in lifelong learning (age 25-64)			10.5%	12.9%	9.3%	9.0%	**15%**
Proposed ET 2020 benchmark							
8. Foreign languages skills	**a.** ISCED 2 students at proficiency level B1 or higher in first foreign language[1]		:	61.0% 11	:	43.5% 11	
	b. ISCED 2 students learning two or more foreign languages		:	:	58.6%	60.8% 10	
Other ET 2020 Indicators							
9. Investment in education and training	**a.** General government expenditure on education (% of GDP)		7.2%	6.5% 11	5.5%	5.3% 11	
	b. Annual expenditure on public and private educational institutions per pupil/student in € PPS	ISCED 1-2	€ 4,432 08	€ 4,108 10	€ 5,732 08	€ 6,021 10	
		ISCED 3-4	€ 4,871 08	€ 5,355 10	€ 6,964 08	€ 7,123 10	
		ISCED 5-6	€ 4,500 08	€ 5,038 10	€ 9,309 08	€ 9,168 10	
10. Digital competences	**a.** Pupils in grade 4 (ISCED 1) using computers at school		:	:	60.7% 07	64.7% 11	
	b. Individuals aged 16-74 with high computer skills[2]		28.0%	32.0%	25.0%	26.0%	
11. Entrepreneurial competences	Individuals aged 18-64 who believe to have the required skills and knowledge to start a business		:	43.0%	42.3% a	42.0% a	
12. Vocational education and training	Share of vocational students at ISCED 3		33.0%	34.4% 11	49.6%	50.3% 11	
13. Skills for future labour markets Projected change in employment 2010-2020 in %	High qualification		:	6.5%	:	19.1% EU28	
	Medium qualification		:	7.5%	:	4.6% EU28	
	Low qualification		:	17.8%	:	-20.2% EU28	
14. Low-skilled adults	Literacy		:	13.0%	:	19.9% EU17	
	Numeracy		:	14.3%	:	23.6% EU17	
	Problem solving in technology rich environments[3]		:	27.1%	:	26.9% EU13	

Source: Cedefop: 13 / EAC: 10a,b / European Survey on Language Competences (ESLC): 8a / Eurostat (Government finance statistics): 9a / Eurostat (LFS): 1, 2, 6, 7 / Eurostat (ISS): 10b / Eurostat (UOE): 3, 8b, 9b, 10c, 12 / IEA TIMSS: 10a / Global Entrepreneurship Monitor: 11 / OECD (PIAAC): 14 / OECD (PISA): 4

Notes: 07 =2007, 08 =2008, 09 =2009, 10 =2010, 11 =2011, e= estimate, a= unweighted average b= break, p= provisional
Number of countries included in EU average: PISA=25, Entrepreneurship=18, Language skills=13, ICT/Computers at school=13, others: EU27
[1]= average of skills tested in reading, listening, writing, [2]= having carried out 5-6 specific computer related activities, [3]= Results cover people with scores below level 1 as well as people who have no computer experience or failed the ICT test

Figure 1. Position in relation to highest (outer ring) and lowest performers (centre)



Source: DG EAC calculations on the basis of data from Eurostat (LFS 2012 and UOE 2011) and OECD (PISA 2009). *Note:* all scores are set between a maximum (the highest performers visualised by the outer ring) and a minimum (the lowest performers visualised by the centre of the chart).

2. Main challenges

The main challenge for Estonia will remain the improvement of the quality of the education system, while pursuing its adaptation to its demographic situation as well as to the requirements of the labour market.

As regards upper-secondary level there is an identified need to re-organise the existing network of schools. For vocational education and training (VET), it will be important for Estonia to make VET more relevant for both the present labour market as well as for future skills needs. Finally, in higher education there is clearly a necessity to steer more students towards the fields of study required by the future labour market, in particular as regards science, technology, engineering and mathematics (STEM).

Estonia also aims at increasing the adult participation rate in lifelong learning to 20%, in which the inclusion of low-skilled remains a particular concern, and reducing the share of adults without professional or vocational education to below 30%, hence further efforts will be essential in this area.

Participation of children in early childhood education and care (ECEC), especially under the age of 3, also remains a concern.

Consequently, the 2013 European Semester country-specific recommendation (CSR) on education focuses on the further adaptation of the Estonian education and training system to the needs of the labour market, the participation of the low-skilled in life-long learning, as well as on the cooperation of higher education institutions with business and research.

3. Investing in skills and qualifications

Investing in education and training in a context of economic crisis

Public spending on education (COFOG data) continues to be relatively high in comparison with the EU average; in 2011 it was at 6.5% of GDP versus 5.3 % for the EU-27. It has only slightly decreased throughout the period 2008-11.

The authorities gave priority to the investment in education in recent years in Estonia. The education sector is named a priority in the current government coalition programme. Investment in education has enjoyed priority over the past years and remained stable during the economic crisis. The government expenditure on education is set to play an even more prominent role, i.e. given also the importance of sizable EU transfers. It will be however important in the future to combine the relatively high level of expenditure with the planned efficiency gains, such as the improvement of the delivery of educational services by local authorities, as suggested by the OECD[1].

Skills and qualifications

[1] OECD Public Governance Reviews - Estonia: Towards a Single Government Approach, see in particular case study 1: Estonian education – sustaining high quality schools, link http://www.oecd.org/estonia/oecdpublicgovernancereviews-estoniatowardsasinglegovernmentapproach.htm

In terms of basic skills, 15-year-olds' performance on 2009 PISA tests in literacy, numeracy and science continues to largely outperform the EU average, and is consistent with results of previous PISA tests.

Foreign language skills are more developed than the EU average. For entrepreneurship, 43 % of 18-64 years old population are believed to have the required skills and knowledge to start a business.

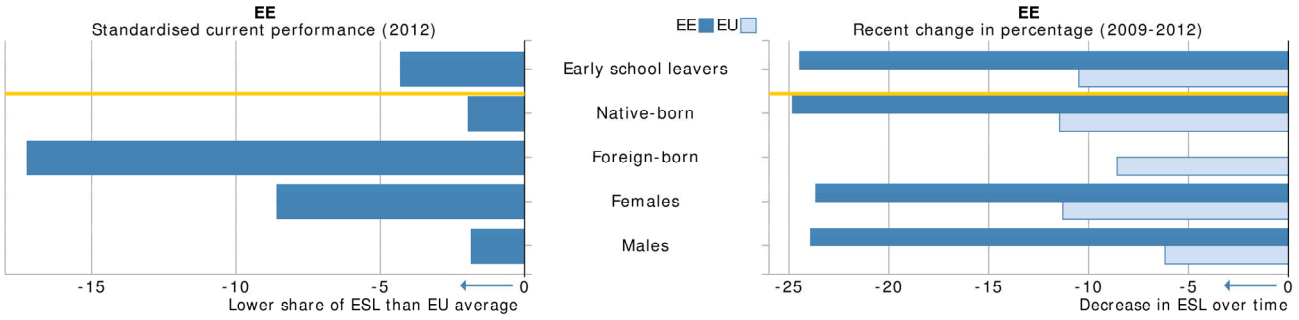
ICT skills of the population are slightly above the EU average with 32% of individuals aged 16-74 in 2012 with high computer skills. Estonia is also intensely investing in the use of new technologies and digital skills, by e.g. updating the ICT skills of students, teachers and teacher educators (*"Õppiv Tiiger"* - The Learning Tiger Programme 2008-13 in general as well as vocational education and the *"Tiigriülikool"* - Tiger [Leap] - Programme 2009-12 in higher education). The Estonian government has very recently launched a pilot project for computer based statistics education in lower and upper secondary school. The project includes the development of a new conceptual approach and digital learning material.

Estonia has a national qualifications framework (NQF) in force. Estonia has also already referenced the Estonian qualifications framework to the European Qualifications Framework (EQF) in 2011.

4. Tackling early school leaving and raising the bar in school education

Estonia performs slightly better than the EU average for the early school leaving rate (12.9% in 2012). It is relatively close to both the EU deadline target for 2020 (10%) as well as its national target (9.5%). It is also worth noting that a significant reduction of the early school leaving rate for males took place in recent years, but it still remains twice as high as for females. As regards the period 2011-12 the ESL rate has all in all decreased by 0.4 p.p.

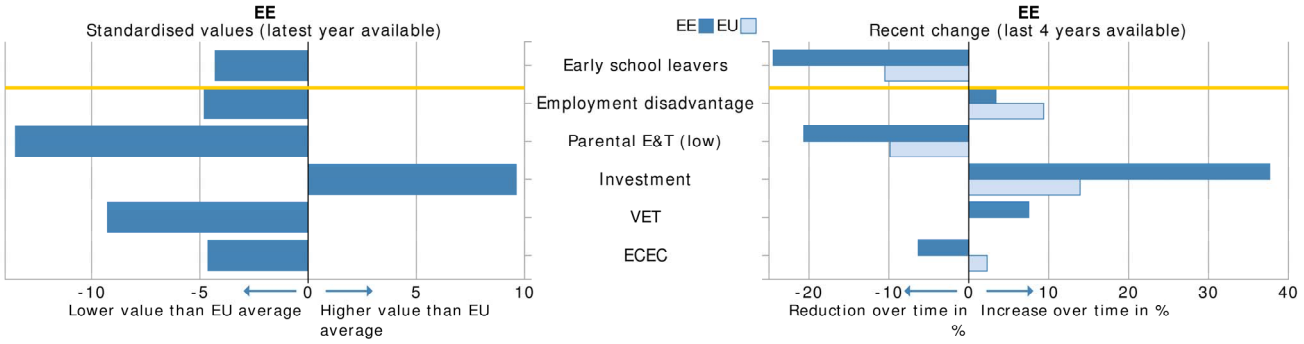
Figure 2. Early leavers from education and training: sub-groups



Source: JRC-CRELL. *Note:* ESL = early school leaving. See Annex 2 for further information.

Investment is strong and it is increasing. Labour market disadvantage is not so strong, but perhaps a stronger parental education has built a tradition for further learning.

Figure 3. Early leavers from education and training: sub-indicators



Source: JRC-CRELL. *Note:* see Annex 2 for an explanation of the sub-indicators.

In the spring of 2012 Estonia initiated preparations for the basic school and upper secondary school reform: changes in the Basic School and Upper Secondary School Act were approved in the Parliament in June 2013 and came into effect on 1 September 2013. The main change includes a clear distinction between basic school and upper secondary school in order to increase the attractiveness of vocational school education in relation to upper secondary school, especially upon completion of basic education. The financing rules for schools were made more transparent and the working arrangements for teachers were made more flexible as well as more attention is given to the teaching profession and to increasing the responsibilities of school directors in school management.

The process also includes the consolidation of the upper secondary school network and the launching of a programme of investment with local authorities, aimed at raising the quality of the school system, at obtaining relevant key competences, and at matching educational outcomes with the needs of the job market, as well as at adapting educational provision to Estonia's adversely evolving demographic situation, including through reallocation of infrastructure and resources. The initial funding for the programme amounts to 24 million EUR p.a. for the period 2012-15. The reform is a step in the right direction and is expected to provide for a smoother transition to vocational education after basic school. However, its impact will only probably show in the future and the implementation will require further monitoring.

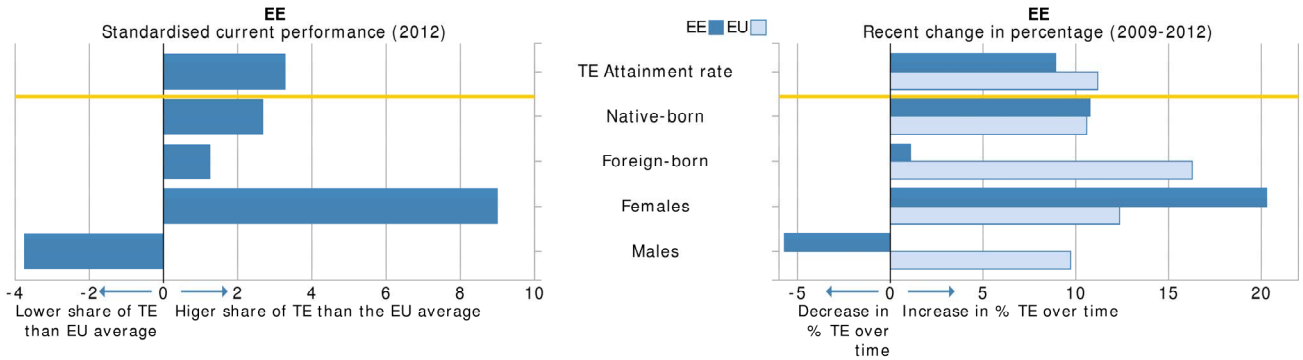
One of the impacts of this reform outlined by Ministry of Education and Research in their preliminary assessment includes a more precise division of responsibilities between the state, local government and the school level (school directors). This includes e.g. better defined responsibilities for financing of teacher salaries. However, the reform of the upper-secondary school network may prove difficult and take a long time. It remains also to be seen whether it is feasible to implement this long-term initiative independently from a possible future territorial reform of the country, providing for the efficient delivery of educational services for the Estonian population, as suggested by the OECD.

Participation in early childhood education was at 89.1% in 2011, slightly below the EU average. Participation of children in ECEC especially under the age of 3 remains a concern.

5. Encouraging participation in tertiary education and modernising higher education

Estonia performs better that the EU average for the tertiary attainment rate (39.1% in 2012). It has almost reached in this area both its national, as well as the EU target for 2020. In addition, a strong increase in tertiary attainment of females was noted for Estonia and the rate remains almost twice as high as for males. As regards the period 2011-12 the completion rate has decreased by 1.2 pp. The number of graduates in science, mathematics and technology is still low when compared to the EU average.

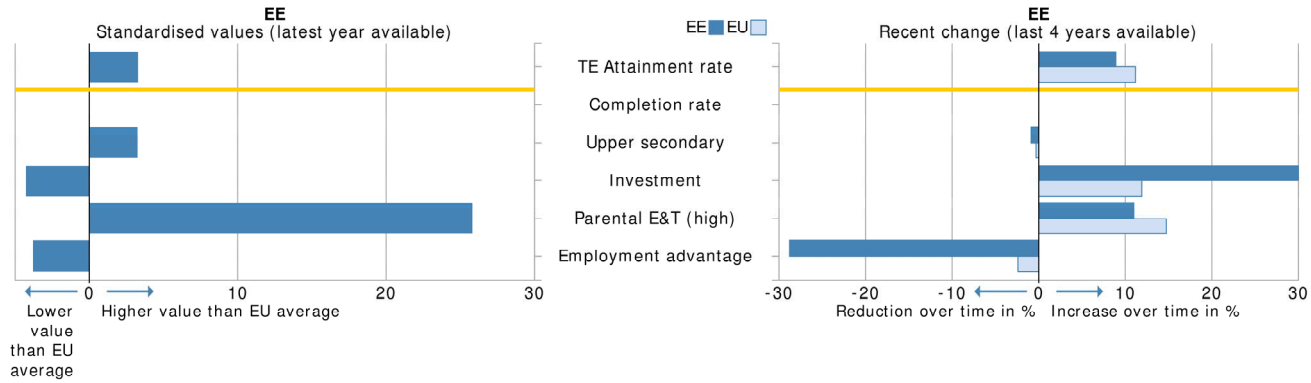
Figure 4. Tertiary education attainment: sub-groups



Source: JRC-CRELL. *Note:* TE = tertiary education. See Annex 2 for further information.

Investment is low but has been increasing. Like with ESL, the incentive to continue with tertiary attainment is rather low (limited employment advantage) and has been decreasing considerably. But also here a strong parental education might point towards a tradition of learning.

Figure 5. Tertiary education attainment: sub-indicators



Source: JRC-CRELL. *Note:* see Annex 2 for an explanation of the sub-indicators.

Estonia proceeded with the adoption of the New Higher Education Act in May 2012. The major aims of the reform are to increase the fairness of the higher education system and the efficiency of studies, to reduce the division between the various fields of higher education and to increase the accountability of institutions of higher education in ensuring the quality of education. In addition the reform intends to steer more students towards mathematics, science and technology (MST) subjects, corresponding to the current and future skills needs of the labour market (e.g. as regards the so far unmet demand for ICT specialists). At present the Ministry of Education and Research (MoER) is in the process of implementing this important reform, *inter alia* through the conclusion of performance agreements between the Ministry and universities. However, this new institutional arrangement will have to be balanced against the need to preserve the high degree of autonomy and the governance structures of Estonian universities. As regards the cost of this reform, it is estimated for the State budget at € 6.1 million in 2013, € 18.8 million in 2014 and € 33.0 million in 2015, but there is also a possible risk of insufficient public budget compensation for a certain number of higher education institutions (HEIs), thus not fully covering the potential loss of currently important private funding.

Together with the reform, the Government adopted the amendments to the Study Allowances and Study Loans Act in December 2012, with which the needs-based study allowance was introduced. The new allowance is a national allowance which is designed to support students from financially disadvantaged backgrounds in terms of their access to higher education, success in their studies and completion of a study programme within a nominal duration. The system of needs-based study allowances was effectively introduced as of the 2013-14 academic year and will apply to all students entering higher education.

The establishment of performance agreements between the MoER and 6 higher education institutions (HEIs) is a step in the right direction, i.e. by allowing the steering of students towards areas with the most promising employment outlook (STEM) in a context in which the number of graduates in science, mathematics and technology is still low in EU comparison. This orientation also seems to be corresponding to the future skills needs of the country, as outlined by future skills forecasts. It is also worth mentioning that the process is now well on track with the conclusion of all the 6 performance agreements in early 2013 and the inception of the new arrangements as of September 2013. It is expected that the reform will lead to a rise in education quality, provide better access to higher education and make university graduates more competitive on the job market.

6. Facilitating the transition from education to work

Estonia is faced with a problem of a high number of people without any professional qualifications, since about 30.3% of Estonians aged 25-64 years in 2012 have graduated from neither VET nor university. Therefore this group has only compulsory or upper-secondary general education at the moment. A number of ambitious initiatives (e.g. TULE, KUTSE) intend to address these two important challenges in the field of education and training, often with the assistance of financing from EU structural funds, in particular the European Social Fund (ESF). A recent Eurostat study shows that 68% of Estonian enterprises provided in 2010 continuous vocational education and training (CVET) for its employees, slightly higher than the 66% EU-average.

Estonia decided to pursue the modernisation effort regarding its vocational education and training (VET) sector, in particular via the revision of the VET Institutions Act presented by the government in late 2012, which was adopted on 12 June 2013 and entered into force as of 1 September 2013.

The reform focuses on the improvement of quality, modernisation of curricula in order to make them more flexible and better corresponding to industry needs, as well as the raising of professional standards for educators. The act defines new types of vocational education which can be acquired and are in line with the Estonian qualifications framework. Also, an effort is made to attract adults to acquire vocational education or improve their current qualifications. In the framework of the reform, a new vocational education standard has been introduced that foresees a new level of training in vocational education institutions for high level professionals and specialists. In order to include employers more in the development of vocational education, a system of quality assessment for vocational education institutions has been introduced which foresees the inclusion of employers' organisations and professional associations. The aim of this initiative is also for VET students to acquire better and up-to-date qualifications for the employers by the time of graduation. Preliminary plans include establishing a managing centre for apprenticeship training, in order to foster the extended use of this type of training form in VET. It is set to support schools and enterprises, and create 2.000 apprenticeship places in co-operation with VET institutions and employers. This is a very useful and important new action as work-based training will be made more prevalent and the so-far very limited apprenticeships opportunities will be enhanced.

This initiative will, however require substantive public and private funding, e.g. with the co-financing of future structural funds, and a high degree of cooperation of social partners, in particular the enterprise sector, in order to make it a fully-fledged success.

Estonia is experiencing a relatively high level of youth unemployment (23.1% in the first quarter of 2013) and will have to continue efforts in order to modernise and adapt its education system to the future needs of the Estonian labour market. The employment rate of graduates suffered from the recent economic crisis, but after reaching its lowest level at 64.3% in 2010 it rebounded in 2011 and remained stable in 2012 (at 75.1%)

Estonia's employment pattern up to 2020 is forecast to diverge markedly from the EU average in both high and low qualification jobs, with a modest increase in the former and a large increase in the latter. Employment in low qualification jobs is projected to rise by 17.8% by 2020 while demand for high qualifications is set to increase by only 6.5% during this same period.

7. Upgrading skills through lifelong learning

Estonia is confronted with relatively significant skill mismatches with regard to the current needs of the labour market, as a result of a major structural shift from non-tradable to tradable sectors in recent years

The Survey of Adult Skills (PIAAC[2]) shows that adults (aged 16-65) in Estonia perform above the EU average in the proficiency tests on literacy and numeracy. The same holds true for young adults (aged 16-24). In particular, young tertiary graduates (aged up to 29) score highest in literacy among the EU countries participating in the survey. The younger generation scores better in literacy (11 points, i.e. equivalent to skills usually acquired with 1 to 2 years of education) than the overall population. The share of low-skilled adults is below 15%, significantly below the EU average. However, the low-skilled are 4 times less likely to participate in job-related learning than high skilled adults[3]. Finally, the highly developed literacy and numeracy skills do not necessarily translate into large productivity gains for the economy.

As regards progress by Estonia towards the European benchmark on adult participation in lifelong learning, there is a clear increase from 6.5% in 2006 to 12.9% in 2012. But it remains much lower for the 50+ age group and the foreign-born persons.

In July 2012 the Estonian government decided to set up an inter-ministerial Life-long Learning Strategy Task Force, whose aim is to elaborate a new national LLL Strategy for 2014-20, which is a long-awaited and key element for the strategic development of education policy in Estonia. It remains to be seen whether the new strategy, set to be presented to the government in late 2013, will be based on the proposal previously formulated by the Estonian Cooperation Assembly, the Estonian Education Forum and the Ministry of Education and Research (MoER) and called 'Estonian Education Strategy: 2012-20'. This already existing blue-print comprehensively tackles the main challenges of the sector in Estonia, including the one related to the strengthening of linkages between education and the knowledge-based society, as well as the innovation economy. The adoption of a national LLL strategy is a necessity for Estonia and would not only demonstrate the country's commitment to this important principle but also greatly facilitate in the future the use of structural funds, in line with the priorities established within such a long-term strategic document.

Providing opportunities for low-skilled workers to take part in lifelong learning still remains a challenge for Estonia, and until now there are no specific measures planned to increase participation in lifelong learning among this group.

[2] Volume I of the Education and Training Monitor (chapter 6) provides an overview of the results of the survey. Skills levels are presented either in terms of average score points or proportion of adults at a given proficiency level in literacy or numeracy (level 1 to 5) or problem solving in technology-rich (ICT) environments (level 1 to 3 or no ICT experience).

[3] At EU level, low skilled adults are 5 times less likely to participate in job-related learning than high skilled adults.