Republic of Estonia
Ministry of Education and Research

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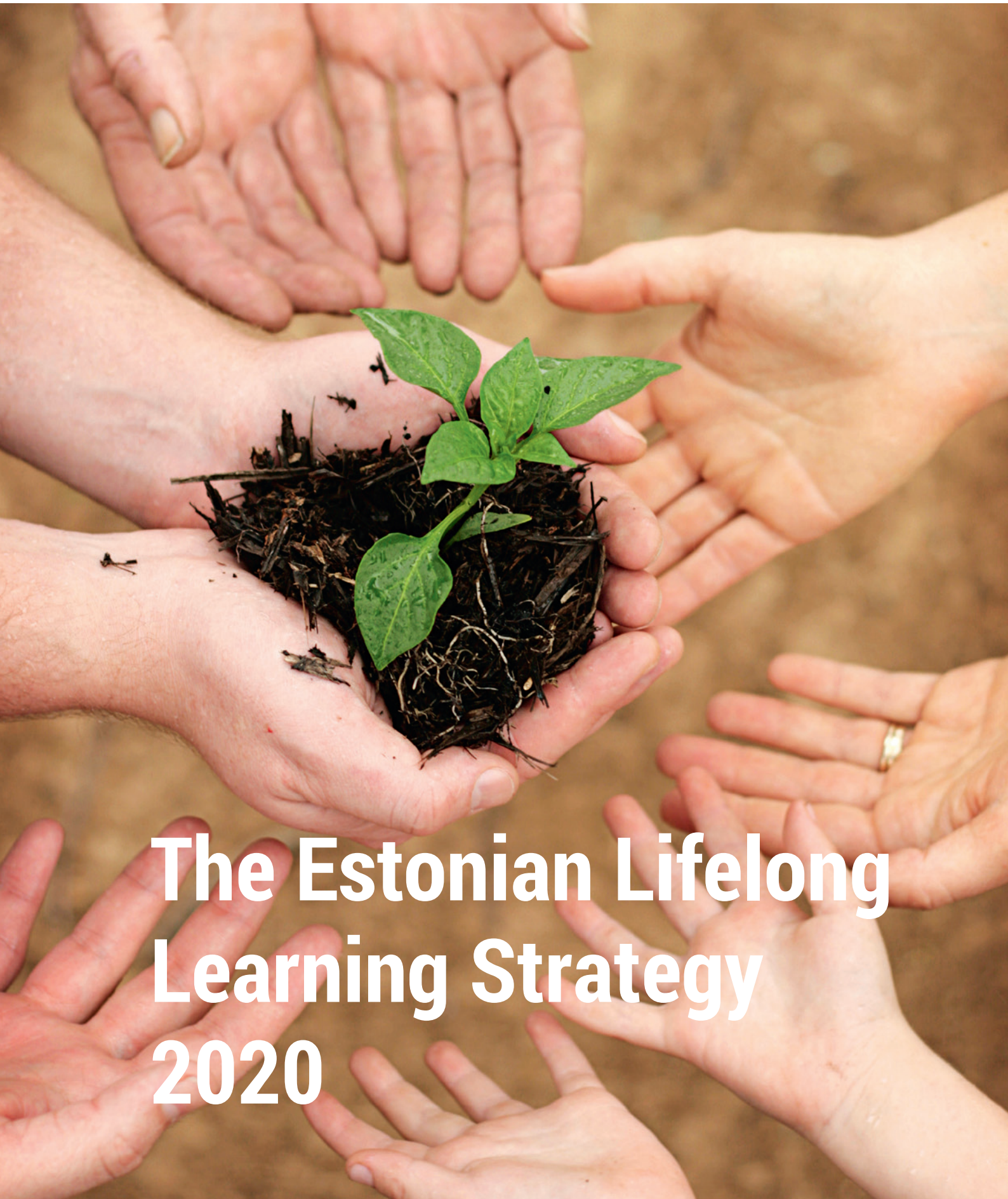

The Estonian Lifelong Learning Strategy 2020

Contents

Introduction

What Estonia needs is a shared understanding of the direction to take when moving towards a knowledge and innovation-based society. We are successful only when we acknowledge the need to constantly learn and relearn and to be proactive and creative, so that we can cope in today's rapidly changing world. Learning and the knowledgeable application of skills must become an integral part of an active approach towards life.

The Lifelong Learning Strategy is a document that guides the most important developments in the area of education. It is the basis on which the government will make its decisions for educational funding for the years 2014-2020 and for the development of programmes that support the achievement of necessary changes. The goals and measures of the Lifelong Learning Strategy are concordant with the national reform programme "Estonia 2020", with the Estonian national strategy for sustainable development, "Sustainable Estonia 21", and with the fulfilment of the education-related goals of the "National Security Concept of the Republic of Estonia".

Unlike earlier attempts to draft an education strategy, the current one is a strategy of choices. It specifically addresses the most important obstacles in the area of lifelong learning. It is critically important for society to remove these obstructions, because they impact on the achievement of the agreed goals. Several international tests[1] have shown that education in Estonia is of a good quality: the skills of our students who have completed basic and secondary education are above average compared to their peers in other developed countries, whereas the results of our young people with higher education rank only as average. International comparisons, however, have also shown where our problems lie – there is a lack of resolve and creativity in using different skills in new contexts, the decline in age-related skills proficiency is too rapid, and older generations have lower information-processing skills and lack the courage to use computers. Our formal education provides a good basis, but skills have to be actively used in daily activities as well as in work life, since the principle "use it or lose it" really does apply. We have to openly acknowledge that unused skills have no intrinsic value in themselves.

Developing the Lifelong Learning Strategy has been a two-stage process. In cooperation with the civil society organizations, the Estonian Cooperation Assembly and the Estonian Education Forum, the Ministry of Education and Research initiated the project "Five Challenges in Estonian Education – Education Strategy for 2012-2020" during the period of 2009-2011. This document was a starting point for discussions in the task force that included experts from the fields of education and the labour market who were responsible for compiling the current strategy in 2013. During the development of the strategy, an advisory body, mainly composed of the experts who had created the original document on the five challenges in Estonian education, was consulted. The Government officially approved the Estonian Lifelong Learning Strategy on February 13, 2014. In compiling the strategy, the results and written commentaries of discussions with different stakeholders was taken into account.

General goal and basic principles

In addition to the formal education system (kindergarten, basic school, upper-secondary school, vocational institutions, higher education institutions), **lifelong learning** also includes in-service education and retraining as well as non-formal and informal education in all its diversity.

[1] PISA 2006, 2009 ja 2012, PIAAC 2013

Opportunities for acquiring new knowledge and skills can be found in the workplace, through extracurricular activities and youth work, as well as by participating in the activities of civil society organisations or in a virtual space, where a person can learn either individually or with others. Various social networks, cultural institutions, military service, as well as the home environment, all play a role in developing and supporting the curiosity and motivation to learn, as well as in shaping study habits and value judgements.

The Estonian Lifelong Learning Strategy considers every individual as a learner – children as well as youth and adults. Learning must become an integral part of an individual's active approach towards life, including among those who are older. Collectively, teachers are those professionals who guide learning processes and develop learning environments in kindergartens, general schools, vocational schools, higher education institutions, hobby schools, non-formal and informal education centres, in-service education centres, open youth centres, museums and other cultural institutions. The term **school leadership** includes the Heads of these learning institutions. The **approach to learning** includes an understanding of the nature of learning, its goals, methodology and the role of all the various parties involved in the learning process. Terminology is explained further in Annex 2.

The general goal of drafting the Lifelong Learning Strategy is to provide all people in Estonia with learning opportunities that are tailored to their needs and capabilities throughout their whole lifespan, in order for them to maximize opportunities for dignified self-actualization within society, in their work as well as in their family life.

The Lifelong Learning System - 2020 is measured by the following key indicators[2].

	Goal level 2020	Starting level
1. Participation rate in lifelong learning among adults (% of 25-64- years old who stated that they had received education or training during the four weeks preceding the survey)	20%	12.9% (2012)
2. Percentage of adults (25-64) with general education only (no professional or vocational education)	Not over 25%	30.3% (2012)
3. Early leavers from education and training (% of the population aged 18-24 with at most lower secondary education and not in further education or training)	Below 9%	10.5% (2012)
4. Top achievers in basic skills (the percentage of top performers)[3]		
a) Reading	10%	8.4% (2012)
b) Mathematics	16%	14.6% (2012)
c) Science	14.4%	12.8% (2012)
5. Employment rate of recent graduates (20-34 years old graduates; one to three years after leaving education)	At least 82%	73.9% (2012)
6. Digital competences (individuals aged 16-74 with computer skills, %)	80%	65% (2012)
7. Comparison of general education teachers' salaries (ratio of salaries to earnings for full-time, full-year workers with tertiary education aged 25 -64)	≥1.0	0.64 (2011)
8. Stakeholders' satisfaction with lifelong learning (central, regular survey)[4]	Satisfaction has increased	

[2] The Lifelong Learning Strategy plays an important role in achieving the general objectives of the "Estonia 2020" programme – several of the actions outlined for Goals 3 and 5 of this Strategy are directly aimed at improving productivity and increasing employment, while all strategic goals are indirectly related. The first three key indicators overlap with the main objectives of "Estonia 2020", and the first and third key indicators overlap with the indicators in the Action Programme of the Goverment of the Republic.

[3] Share of students who reached PISA levels 5 and 6; the goal level will be measured in the 2018 PISA test.

[4] An overview of the dynamics of the listed indicators is shown in Annex 1.

The following principles are significant in developing the lifelong learning system:

- The learner's active participation and responsibility;
- Cooperation and learning from each other;
- The quality, flexibility, transparency and trustworthiness of learning opportunities;
- Consideration of special needs in the organization of studies and learning environments;
- Gender equality;
- Openness, tolerance and international cooperation;
- Continuity of the Estonian state, its language and culture;
- Sustainable development;
- Evidence-based decision-making.

When implementing the Strategy, its success is dependent on whether all the important stakeholders accept responsibility and carry out the following tasks:

- The learner participates in learning in a responsible manner and consciously charts their own education path;
- The parent supports the learner, ensuring that the child fulfils the obligation of mandatory school attendance, at least for the duration of the child's basic education;
- The teacher creates an environment that supports learning and development, sets learning goals that are appropriate for the learner, and develops his or her own professional skills purposefully;
- The Head of an educational institution provides the strategic leadership for the institution, creates an organizational culture that supports learning and development, and supports the professional development of teachers;
- The local government ensures access to good quality preschool and basic education in close proximity to home, as well as the necessary support services.
- Employers describe their expectations of the education system and provide learners with positions for internships, apprenticeships, etc., and create opportunities for their own employees to participate in lifelong learning;
- The State, with its regulatory powers, guarantees good quality and diverse opportunities for acquiring upper-secondary, vocational and higher education, as well as career counselling and pertinent information about the labour market.

Vision and strategic goals for 2020

Vision for 2020: Learning is a lifestyle. Development opportunities are noticed and smart solutions are pursued.

What is different in 2020?	WE TAKE RESPONSIBILITY	WE CARE FOR DEMAND	WE PROVIDE OPPORTUNITIES
	People understand that learning and self-development are their own choice and responsibility.	Studies are based on the learner's interests and capabilities, they support or her development and meet labour market needs.	The lifelong learning system as a whole offers study opportunities that are of good quality, modern, flexible and cater to the special needs of the learner.

To pursue the vision and the general goal, **5 strategic goals have been established:**
(A table of indicators measuring the achievement of these goals is included in Annex 1)

1. **Change in the approach to learning.** Implementation of an approach to learning that supports each learner's individual and social development, the acquisition of learning skills, creativity and entrepreneurship at all levels and in all types of education.
2. **Competent and motivated teachers and school leadership.** The assessments of teachers and headmasters including their salaries are consistent with the qualification requirements for the job and the work-related performance.
3. **Concordance of lifelong learning opportunities with the needs of labour market.** Lifelong learning opportunities and career services that are diverse, flexible and of good quality, resulting in an increase in the number of people with professional or vocational qualifications in different age groups, and an increase in overall participation in lifelong learning across Estonia.
4. **A digital focus in lifelong learning.** Modern digital technology is used for learning and teaching effectively and efficiently. An improvement in the digital skills of the total population has been achieved and access to the new generation of digital infrastructure is ensured.
5. **Equal opportunities and increased participation in lifelong learning.** Equal opportunities for lifelong learning have been created for every individual.

Analysis of the current situation: the advances and obstacles of the lifelong learning system

In determining the advances and obstacles of the lifelong learning system, the background materials for "Five challenges in Estonian education – Education Strategy 2012–2020" as well as the document "A smart and active people", compiled and renewed annually by the Ministry of Education and Research, were used. These documents provide a thorough overview of the education trends within Estonia, as well as in relation to developments in the EU.

The main points that indicate advances and obstacles are as follows[5]:

ADVANCES

1. Education is highly valued in Estonian society – throughout history it has been considered as the cornerstone for individual success, as well as the main driver of the nation's development.
2. International comparative studies show that most learners acquire good basic skills.
3. The socio-economic background of learners has a low impact on their learning results[6].
4. Participation in lifelong learning has increased.
5. The incidence of school dropout has decreased in basic schools.
6. Children's participation in preschool institutions is high, which creates a sound basis for a smooth transition to school life.
7. There are reliable databases for monitoring the progress of learners, education institutions and learning results. This allows resources to be allocated where they are needed most.
8. Using language immersion methods has delivered good results and has increased the level of integration of Russian-speaking youth into Estonian society[7].
9. Alternative approaches incorporated in programmes such as Noored Kooli (TeachFirst) and

[5] An overview of the dynamics of the listed indicators is shown in Annex 1.

[6] „Eesti PISA 2009 kontekstis: tugevused ja probleemid. Programmi Eduko uuringutoetuse kasutamise lepingu aruanne 2012", http://www.hm.ee/index.php?048181.

[7] „Hilise keelekümbluse mõju. Uuringu tulemuste aruanne", http://www.hm.ee/index.php?048181

Tagasi Kooli (Back to school), as well as private schools, Waldorf schools and the NGO Hea Algus (Step by Step), have made the formal education system more flexible, innovative and diverse.
10. Learning and working conditions in vocational schools and higher education institutions are modern.
11. The network of vocational schools has been organized in a more efficient way.

OBSTACLES

1. The understanding of a new approach for learning has been adopted only in theory. All Legal Acts governing national and education institutions establish how the different types of talents and special needs should be identified and valued, but this approach has not become an integral part of the learning process[8].
2. The incidence of 'school dropout' (especially among males) is high across all levels and types of education.
3. Attitudes that have developed in society influence learners towards choosing "male and female specialities", which increases gender segregation in the labour market[9].
4. Approximately one third of the working age population in Estonia does not have a professional or vocational education; the participation rate in lifelong learning among those with low levels of qualifications is limited.
5. There is a substantial mismatch of skills. There is a considerable difference between what is offered by the education and training system and what the labour market needs. Education institutions and representatives of employers do not collaborate sufficiently to develop the lifelong learning system.
6. There is a prevailing attitude in society that learning is only for young people. Besides financial limitations, self-development is also inhibited by a lack of interest and motivation among adults.
7. Teaching as a profession is not attractive: the proportion of young people, particularly males, in the teaching profession is low, interest in enrolling in the teacher education programmes is limited, and among those who have trained to be teachers, many choose not to work in schools.
8. Collection of information regarding labour market developments and the economy is not systematic and career counselling is of an uneven quality and accessibility[10].
9. The current network of upper-secondary schools has not taken into account the significant decrease in the number of students and small upper-secondary schools cannot guarantee diverse, quality learning opportunities.
10. Vocational education is not recognized as an opportunity for good quality studies, and the labour market lacks skilled workers with the appropriate qualifications.
11. A rapid transition to very high numbers of students obtaining higher education has led to a decline in the standards of quality. The problem solving skills of Estonian youths with higher education are low compared to their peers in other countries[11]. The international mobility of university students and teachers is low.
12. Russian-language basic schools do not provide good Estonian language skills and the basic skills of students in those schools is lower than in Estonian-language schools.
13. Teachers' access to the digital infrastructure and learning materials is limited and inconsistent.
14. Approximately one third of the working age Estonian population[12] lacks even minimal ICT skills and the existing skills are insufficient for working[13].

[8] "OECD rahvusvahelise õpetamise ja õppimise uuringu TALIS tulemused", http://www.hm.ee/index.php?048181
"Eesti põhikooli efektiivsuse uuring", http://www.hm.ee/index.php?popup=download&id=1175

[9] For example, the share of female learners in sciences and technology is 31%.

[10] http://vana.innove.ee/orb.aw/class=file/action=preview/id=36529/Karjaariteenuste_susteemi_uuring_loppraport.pdf

[11] "Täiskasvanute oskused Eestis ja maailmas. PIAAC uuringu esmased tulemused", 2013. Peatükk 3.4. "Hariduslik jaotus".

[12] Internet skills and use: https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/DAE%20SCOREBOARD%20 2013%20-%203-INTERNET%20USE%20AND%20SKILLS.pdf lk 83

[13] According to a labour market study conducted by Statistics Estonia, 76% of respondents evaluate their computer skills to be sufficient in order to seek or change employment within the upcoming year.

15. Society places too much emphasis on the results of national examinations when assessing the quality of education and schools.
16. An evidence-based approach in decision-making and in the development of education policy has not become universal which makes reaching consensus in education policy choices difficult.

Strategic goals and measures

1. A change in the approach to learning

All curricula adopted in formal education at the State level during the past decade have emphasized the focus on the learner, key competences, the necessity to incorporate new knowledge with the existing knowledge in the learning process, integrating studies with different subjects and fields, learning/teaching not only factual knowledge, but also how to learn and solve problems, including the team approach to problem solving. Efforts in these coming years must be directed towards implementing these requirements. A teacher in the 21st century, whether in a school, university or in adult education, is not a source of information. Rather, a teacher is a person who creates connections and shapes value judgements, whose task is to develop critical and creative thinking in a student, as well as analytical and entrepreneurial skills, team work skills and written and oral communication skills. The teacher's role is to support a student's path towards becoming a learner who can manage their own learning, who can cope with changes in their surroundings independently, and who takes responsibility for their own development and learning. In order to give weaker learners the ability to cope and to challenge the stronger learners at the same time, teachers and the teams of supporting specialists need to approach each learner individually.

The goal is to implement an approach towards learning that supports each learner's individual and social development, learning skills, creativity and entrepreneurship in the work of all levels and types of education.

Strategic measures

1.1. Ensuring content and volume of studies are concordant with curricular objectives

The content and volume of studies must be concordant with the objectives and learning outcomes outlined in curricula (including key competences).

Individual curricula in nearly all levels and types of education now include objectives that take into account the learning outcomes, including key competences that have been described in various national and international regulations and professional standards[14]. In order to assess whether the learning content, volume, methodology and assessment support the achievement of the set objectives and the acquisition of key competences, the following actions are necessary:

- The Ministry of Education and Research will launch an analysis and, if necessary, make changes in the content and volume of the national curricula in basic and upper-secondary schools;
- At vocational and higher education levels, the topics for analysis deal with the coherence between

[14] The Recommendation of the European Parliament and of the Council of 18.12.2006 defines the following key competences: communication in the mother tongue; communication in foreign languages; mathematical competence and basic competences in science and technology; digital competence; learning to learn; social and civic competences; sense of initiative and entrepreneurship; cultural awareness and expression. The strategy especially emphasises the necessity to develop creativity and entrepreneurship, problem solving and teamwork skills, critical thinking and analytical skills, as well as digital competence.

learning methods, the volume of contact hours and independent work, the share of practical work, grading methods, the relation between the objectives of the curricula and the learning outcomes, as well as how effectively the needs of the labour market are met. Proposals for changes will be made taking into account the best experiences on an international level.

1.2. Changing assessment and evaluation principles

In assessing the results of a learner as well as the education institution as a developing institution itself, the emphasis is moving towards formative assessment that supports learning and the individual development of each learner. In formative assessment, both the assessed and the assessor – the learner and the teacher – set the bar at a height where it can be achieved with effort. Therefore, the main focus is not so much on assessing the end result, but rather on looking at the point of departure, setting objectives together, and choosing the ways and means that would most efficiently support achieving the set goals. The learner is no longer an object but a subject, participates in planning the learning process, takes responsibility for achieving results, and receives feedback from the teacher, first and foremost on the key competences that were agreed upon ahead of time.

In the national external evaluation system, more attention should be paid to assessing key competences and integrating subjects in all levels and types of education, on study development work – on a holistic approach to management.

Examinations, standardized tests, and the external and internal evaluation of educational institutions will be used to assess the extent to which the institution has been able to implement the new approach to learning. This also includes assessing whether the learners have acquired the knowledge and key competences outlined in the curricula, and whether an environment that supports each learner's individual and social development has been created.

In both the assessment of learners as well as institutions, it is very important to find the right balance between summative and formative assessment and to develop the institution's self-analysis and reflection skills. Assessment results are analysed in their dynamics and a differential approach is implemented: the stronger ones get recognition, while the schools with weaker results are provided with the suitable assistance they might need.

Necessary activities:

- Assessment tools for assessing the learners' development in key competences will be created;
- For national exams, other external exams and standardized testing, methods will be developed and implemented in order to assess key competences and problem solving skills;
- Together with stakeholders, the Ministry of Education and Research will develop quality indicators that will measure the learning and educational processes' results, effectiveness and stakeholder satisfaction. The results for all institutions will be publicly available and comparable between institutions.
- External evaluation criteria for educational institutions will also be developed. These will support the implementation of this strategy in secondary, vocational and higher education. The external evaluation will be connected to the institution's self-analysis, which will have an emphasis on the learning and educating process, its effectiveness and results, as well as the results of the stakeholder satisfaction questionnaire. The external evaluation will give the educational institution competent feedback, and the application of suggested improvements outlined in the report will be supported.

1.3. Developing an in-service education system for the teachers and the Heads of basic schools, kindergartens and vocational schools

The main focus here would be rethinking the role of the Head of a school as well as that of the teachers, so that they would be able to create an atmosphere in which attention would be paid to the development of each learner, to the development of their potential, and to valuing individual differences. Additionally, there needs to be a reasonable balance in the in-service education of secondary and vocational school teachers between what the State offers (and centrally coordinates) and the training that is particular to a school's specialization and the career development needs of the teachers. The in-service training system will be structured in a way that good quality courses would be guaranteed and would take into account the specialized nature of the educational institution.

Necessary activities:

- Teacher education institutions will develop initial and in-service education curricula that support the objectives of the strategy and that are closely integrated with practical work. These institutions will use efficient teaching methods and flexible learning to motivate teachers to apply their acquired knowledge and skills in their work;
- In-service courses will be offered to vocational school teachers at the State level, in order to better integrate general and vocational courses, emphasizing the importance of acquiring key competences. Opportunities to update their skills and knowledge base will be set up for vocational teachers in workplaces;
- Those offering in-service courses for school leadership will focus on the management of learning and developmental processes, as well as on the implementation of the new approach to learning;
- In order to guarantee the quality of in-service education and retraining, quality standards for training will be developed for the providers and State funds will be used only for those training courses that are in compliance with the quality requirements;
- Educational institutions will create more flexible opportunities for retraining teachers (new subjects, additional educational technologist competences, special education competence, etc.);
- Opportunities will be created for alternate educational and work experience related routes to the teaching profession.

1.4. Creating and supporting forms of cooperation that support the implementation of the approach to learning

Cooperation in all its diverse forms is the key to success in the education system: it is very important to have cooperation with teachers and educational institutions, the school and parents, but also between the school and the local government and the local private sector. Integrating extracurricular education with formal education and teaching outside of the school environment (in companies, youth centres, nature and environment centres, museums, libraries, and other cultural institutions) enriches the learning process. Special attention needs to be given to the inclusion of Russian-language schools in joint projects and support for their initiatives. Besides local cooperation, including international experience and expertise in all levels of education is of critical importance for Estonia.

Necessary activities:

- Introducing the new approach to learning and discussing implementation options in local contexts, including all the important stakeholders (the learner, teacher, school leader, parent, school owner, local cultural institutions, the private sector);
- The Ministry of Education and Research will launch a programme to support cooperation between teachers and educational institutions, learning from each other, as well as carrying out joint projects with cultural institutions and businesses on all levels of education; also, cooperation between teachers (including university) in integrating learning outcomes and key competences,

cooperation between teachers and support staff in solving students' behavioural problems and analysing learning difficulties, developing new methods for cooperation between teachers in upper-secondary schools and universities, carrying out studies on activities, joint projects between university teaching staff and researchers, participation in international cooperation projects and comparative studies, etc.

1.5. Developing Centres of Competence

Tallinn University and the University of Tartu are responsible for the areas of teacher education and educational research, and for launching an educational research programme. The choice of topics will be based on the national education strategy priorities and directed towards developmental needs at all levels of education. Both universities will set teacher education and educational sciences as their priority fields and will accept responsibility for developing the area of education and for implementing the new approach to learning in the cooperation between educational institutions and employers. The performance of the Centres will be assessed regularly through the inclusion of competent experts.

The role of the Centre of Competence is as follows:

- To make studying teacher education curricula more attractive;
- To make the school practice more efficient and to integrate theoretical studies with practice;
- To collect the best practices from around the world as well as the methodological knowhow in Estonia, to analyse it and disseminate examples of best practice to all Estonian educational institutions;
- To offer counselling to teachers on teaching specific subjects, vocational education and general didactics;
- To provide an environment for developing new and innovative solutions and contribute to their implementation;
- To support digital innovation in educational institutions;
- To carry out educational research based on the priorities of the national educational strategy;
- To initiate and coordinate joint projects and research between universities and schools;
- In evaluating and compensating the efficacy of university teachers' performance, their contribution to the development of school education should be taken into account;
- To offer higher education didactics courses for implementing the approach to learning. The development of these courses will be based on the respective research and development work. The courses will be diverse in their subject range and will also take into account the needs and expectations of different learners.

2. Competent and motivated teachers and school leadership

The roles of the teacher and the Head of an educational institution are of key importance in carrying out changes. Their image in society needs to change as well: wages must be more competitive and work organization must be such that working as a teacher or a headmaster would be highly valued in society, as an attractive choice for the best of the best.

The objective is to make the evaluation and compensation of teachers and school leaders proportional to their professional qualifications and their effectiveness in the performance of their work.

Strategic measures

2.1. Adjusting the average salaries of teachers

The average salary of teachers should be raised to a level that would make employment in a school a viable option for the best candidates. The average salary needs to be raised to the same level as that of the average wage of a specialist with a tertiary education degree in Estonia, in order to:

- Make the teaching profession a more attractive choice, especially among young people and males;
- Create competition for teaching positions, which would allow only the best candidates to be chosen for the profession;
- Allow for the differentiation of teachers' salaries based on the results of their performance.

2.2. Evaluating the performance of teachers

A teacher's performance should be evaluated and a salary rate applied in accordance with their contribution and effectiveness. In assessing a teacher's work, school leaders play a key role. Their role is to discuss and apply the rules governing the period of work time and compensation with the staff; to give teachers regular feedback on their contribution and competence; and support the teachers' professional and individual development. An approach based on the overall working time allows the school leader to spread the actual working time among teachers in a more even manner and this will motivate teachers to participate more in developmental activities in the school.

Necessary activities:

- A user-friendly self-reflection platform will be created, in which a teacher will have the opportunity to test their skills; the self-analysis platform will be based on competences outlined in the professional standards for teachers;
- There will be regular development discussions at educational institutions, which will be focused on the implementation of the new approach to learning. The Head of the school will motivate the teacher to approach each student individually, to participate in the development work of the school and in various forms of teacher training;
- To avoid significant differences across the State in the evaluation of teachers' effectiveness and compensation, the school leaders' associations (Heads of vocational and general education schools) will develop models to assess the contributions and effectiveness of teachers and they will implement these models based on the specific nature of their school;
- Higher education institutions will work together to develop the principles for assessing the results of their teaching staff. In assessing the work of the teaching staff in universities (including during the process of recruitment), the quality of teaching work will be taken into account, including its international aspect. This includes having work and teaching experience in foreign universities, participation in international development programmes, development of curricula in a foreign language, teacher effectiveness and students' feedback, the teacher's self-development, etc. This also includes the results of academic research carried out by the staff.

2.3. Evaluating the performance of school leaders

School leaders should be regularly assessed for their implementation of the essential competence requirements for the position. The role of a school leader in creating a school's culture is of crucial significance, because the learning environment depends first and foremost on the headmaster – whether they value, motivate and support a learner and their developmental potential, whether they support the development of teachers and other school staff members, and whether the school works well with the community and families. In order for Estonian schools to be led by competent and motivated school leaders, who have the determination and ability to carry out the objectives set out in the strategy, the following steps need to be taken:

- Associations of the Heads of preschool institutions, general education schools, vocational schools and institutions of professional higher education, and school owners will develop and the Ministry of Education and Research will implement competence requirements for headmasters. This will be the basis for recruiting headmasters, providing feedback on their performance, as well as offering additional training, which among other things also emphasises the objective of implementing the new approach to learning;
- The Ministry of Education and Research will launch a training programme for future school leaders, from which the best candidates will be chosen through open competition;
- The Ministry of Education and Research, in cooperation with school owners, will develop an external assessment system for school leaders, through which they will get regular professional feedback about their work and how it relates to the school's results, as well as suggestions for additional training. The quality indicators of the institution will be used as the basis in assessing the results of the work of the Heads of educational institutions,

2.4. Increasing the popularity of the teaching profession

Programmes need to be developed and implemented in order to raise the popularity of the teaching profession, so that the profession would become a viable choice for young people, as well as those considering a career change.

3. The concordance of lifelong learning opportunities with the needs of the labour market

A knowledge-based and high-value oriented economy also creates an environment that motivates a person to take responsibility and initiative in order to best realize their potential. For the lifelong learning system to work smoothly and in a self-regulating way the curricula must be relevant and information about the labour market and developments in the economy must be easily accessible to everyone. A person's study choices should first and foremost be guided by relevant and reasonable information and counselling.

The objective is to create study opportunities and career services that are of a good quality, flexible and diverse in their selection, and that also take the needs of the labour market into account, in order to increase the number of people with professional education for different age groups and regions.

Strategic measures

3.1. Developing a system for assessing the needs of the labour market

The Ministry of Education and Research, the Ministry of Economic Affairs and Communications, and the Ministry of Social Affairs in cooperation with employers and representatives from other ministries, will launch a regular and well-ordered system for the forecasting, monitoring, and feedback of labour market needs. Within the framework of this programme, the developmental potential and labour requirements of different economic sectors in Estonia will be analysed, using quantitative as well as qualitative methods. Lifelong learning will be planned, based on the occupational areas. The results of this analysis and projections will form the basis for establishing qualifications and a career counselling service, for the curriculum development work of educational institutions, as well as for different authorities that finance learning activities. The prerequisite for this approach is the active and content-driven participation of employers in the creation of the lifelong learning system.

For launching the system, the following structures will be brought together:

- **Sector skills councils** in the most important occupational fields for Estonia – expert bodies that pool specialists in a specific field of activities. These bodies will monitor, analyse, and project future labour market developments and the situation of initial and in-service education. They will also be partners for the Ministry of Education and Research in deciding on the relevance of the contents of the qualifications in a certain field, as well as in informing society about development directions in their field;
- **The high-level coordination committee** is an expert committee, combining experts from different fields, that is in charge of planning and commissioning analyses and prognoses, utilizing comparative methods, based on the strategic needs of the State. The committee informs the public of the current trends and advises the Ministry of Education and Research, the Ministry of Economic Affairs and Communications, and the Ministry of Social Affairs on the disciplinary division of the budget allocated to initial and in-service education.

3.2. Organizing studies according to the needs of the labour market

Post-basic and post-secondary studies need to be organized according to the needs of the labour market. The State and sector skills councils will manage the reorganization process of curricula in such a way that the contents of different qualifications is well understood by society and that the acquisition of the necessary qualifications is organized in an efficient way (including addressing the issues of appropriate lengths of study and sufficient practical work experience).

Necessary activities:

- Educational institutions will develop their curricula taking into account the needs and the developments in the labour market, and the relation to the professional qualification system;
- Representatives from the labour market will actively participate in developing curricula and designing the learning processes;
- Financing principles for facilitating access to in-service education and retraining will be developed and implemented based on the trilateral contribution of the learners, the State and the employers.

3.3. Establishing a more efficient system to gain work experience

In order to guarantee the quality of work experiences during studies, a central development programme will be created that will offer methodological support, according to the needs of different economic sectors, to vocational education institutions, higher education institutions and employers.

Necessary activities:

- Raise the awareness of employers and educational institutions regarding the significance and organization of work experience, and use the best practices in internship organization. Regulations will contain an emphasis on internship mentoring, different types or models of internship will be promoted, including those specific to different specializations;
- The Ministry of Education and Research will lead the cooperation with other State institutions to develop leverage to increase the interest of business towards offering internships, taking into account the opportunities and limitations of businesses according to their field of activities and their size.

3.4. Providing information and counselling services

Information and counselling services need to be made available for individuals to make informed decisions (career information and studies, information about the employment opportunities, unemployment, wages and career counselling for different professions). Informed decisions allow a person to realize their potential in the best possible way, while avoiding the pitfalls of the gender and age stereotypes that have formed in society. An informed choice of specialization helps prevent dropouts and creates a good basis for the person to be able to use the acquired knowledge and skills later in their work.

Necessary activities:

- Counselling services will be systematically offered to all age groups; priority will be placed on the third stage of basic education (grades 7-9), where career studies and counselling will be guaranteed to all students;
- In cooperation with the Ministry of Social Affairs, the Ministry of Education and Research will guarantee the functioning of a holistic, sustainable and user friendly career counselling system that will help those who want to supplement their education, learn a new speciality or undertake changes in their employment. Access to career counselling will be guaranteed for youth as well as adults;
- In order to guarantee the quality of the counselling service, the choice of career counsellors and their regular evaluation will be guided by competence requirements outlined in the professional standards; career counsellors will be offered professional training courses that fit their developmental needs, and access to relevant employment and education information will be provided;
- A central web platform will be developed, where information about the needs of the labour market and various in-service and retraining opportunities will be available in a user-friendly format.

3.5. Preparing employees for the labour market in areas of economic growth

In order to increase the productivity and export capacity of the Estonian economy, the availability of a local and qualified work force must be significantly improved. The first priority will be in the areas of growth, which are defined in the "Estonian Research and Development Activity and Innovation Strategy for 2014-2020" and the "Estonian Entrepreneurship Growth Strategy 2014-2020"[15].

Necessary activities:

- The study of sciences will be promoted in general education (especially among girls), the contents of subjects related to the sciences as well as their methods will be modernized;
- Extracurricular activities in the fields of technology and natural sciences will be expanded (hobby activities, student academies, science schools, museum studies, etc.);
- At the vocational and higher education levels, grants will be offered for the development of curricula and study modules;
- Motivation packages for learners and teachers will be developed, including those geared towards promoting academic careers and increasing the amount of research work in growth areas;
- The labour market participants will be offered in-service education and retraining in growth areas;
- Strengthening of international experiences and competences will be supported with the objective of increasing the quality and attractiveness of higher education;
- Talented individuals will be invited to study in Estonia, based on the prospective needs of the labour market. Foreign students will be assured of gaining access to the opportunities for work experience in companies.

4. A digital focus in lifelong learning

A new generation of digital infrastructure (personal digital devices, digital infrastructures in schools, interoperable information systems, web services, cloud solutions, open linked data) and its utilization methodologies will create opportunities for the rapid adoption of the new approach to learning and an increase in the quality of education. The use of digital learning resources will help make studying more engaging and will expand opportunities in lifelong learning. If the general population is better equipped with technology skills and more capable of innovation, it will help increase productivity in the economy.

The objective is to apply modern digital technology in learning and teaching in a more efficient way and with better results, to improve the digital skills of the general population and to guarantee access to the new generation of digital infrastructure.

Strategic measures

4.1. Incorporating a digital culture into the learning process

A digital culture needs to be incorporated into all levels of education and in all curricula. New directions in pedagogical and organizational education that are inspired by technological innovation must be approached systematically. The prerequisite for this is to provide support for the school leadership, teachers and learners in the area of educational technology in all educational institutions.

Necessary activities:

- Information technology studies in basic schools, upper-secondary schools and vocational curricula will be updated, to ensure that the graduates have a basic level of digital skills;
- ICT competence requirements will be applied to professional standards;
- Innovative projects and programmes will be planned and supported, to allow people to acquire and develop skills in a modern way. The results of these programmes will be used as a basis for developing and implementing curricula;
- Training courses will be offered and instructional materials will be created for integrating digital technology into the learning process in order to develop the digital competence of teachers and university teaching personnel;
- The centres of didactics at universities will circulate examples of good practice, will support digital innovation in schools, as well as the innovation networks of teachers, university teaching staff and schools;
- Teachers in schools and universities will be provided support with educational technology to maximize the opportunities that the digital age provides in their work.

4.2. Supporting digital learning resources in schools

In order to support the objectives and the achievement of the study results outlined in the curricula of basic schools, upper-secondary schools and vocational institutions, the availability of digital learning resources will be ensured. This will include e-textbooks, interactive exercises, open educational resources, teachers' guides, and web-based assessment tools.

Necessary activities:

- A system of interoperable software solutions will be created to support the development of educational content, its assessment, storage, delivery and utilization in learning. Through this system, the digital learning resources will be made accessible to learners and teachers in a systematic and user-friendly manner. System administration and user support will be provided;
- The Ministry of Education and Research will define the quality requirements for digital learning resources (also taking into account the needs of disabled people), will create the conditions for organizing training courses and for compiling instructional materials for the authors of the digital learning resources;
- Support will be given to pilot projects that aim to facilitate a transfer to the use of e-learning materials in educational institutions and the best practices will be shared.

[15] The areas with the highest growth potential in the Estonian economy are the horizontal application of Information and Communications Technology through other sectors, health care technologies and services, and the more effective use of resources.

4.3. Accessing a modern digital infrastructure for learning

All students in general education, vocational schools and higher education institutions will be provided access to a modern digital infrastructure that supports learning. The ambitious goal is that in the near future the development of digital learning resources and the development of technology will allow all students and teachers, in addition to the school's digital infrastructure, to also use personal digital devices in studies and that the interoperable information systems and services of the State, the local governments and the schools will be accessible to all learners.

Necessary activities:

- Standards and minimum requirements will be set for the digital infrastructure of the schools; consistent monitoring of the schools' digital infrastructure will be guaranteed;
- The local area networks of all schools will be modernized and the opportunities for using modern presentation technologies will be created in the classrooms;
- The school owner will guarantee that each teacher will have use of personal digital devices;
- An education information system framework will be created and applied. All existing systems will be modified and integrated based on this framework (for example, EHIS, e-diaries, e-learning platforms, digital educational material stores, examination information systems, digital archives);
- The learners' personal digital learning environment solutions will be developed for different types of digital devices (smart phones, laptops and tablets);
- A needs-based support system will be created for those learners for whom acquiring personal digital devices is not affordable or who have specialized digital device needs due to a disability.

4.4. Creating and implementing assessment models for digital competence

Assessment models need to be created and implemented for digital competences (for teachers, students, school leaders, adult learners), including the establishment of a grading system for recognition of achievement.

Necessary activities:

- The students' digital competences will be assessed at the end of the 3rd and 4th stages of school;
- Digital competence models will be implemented; curricula for the initial and in-service education of teachers will be in line with these competence models;
- A system of assessing and recognizing digital competences that have been acquired through self-didactics or practical experience will be created.

4.5. Creating learning opportunities for adults to acquire digital competences

Learning opportunities need to be provided for adults to acquire and develop digital competences, so that people will be able to use digital devices to improve their quality of life and make their work more productive. To achieve this, training institutions will work with various partners to fulfil the objectives of the "Information Society Development Plan 2020".

5.Equal opportunities and increased participation in lifelong learning

As a State, the Republic of Estonia must guarantee its people an equal opportunity to obtain education that is proportional to their abilities. At the same time, there are numerous social, linguistic, gender-related, but also economic and regional barriers that inhibit these opportunities. Guaranteeing equal educational opportunities for children and youth with special needs is still problematic. In-service education and retraining often does not reach the target groups that need them. Despite tendencies towards improvement, the rate of discontinuing studies is still high in Estonia.

The current share of education financing from the State budget is comparable to that of more successful nations. To achieve more participation in lifelong learning, the financing must also take into account the capabilities, needs and unique features of different target groups, more than has been done previously. Financing decisions need to be based on the State's priorities and means; they must be open and transparent – as should also be the support services geared towards various target groups.

The objective is to create equal opportunities for lifelong learning for everyone.

The prerequisite for fulfilling this objective is the cooperation of the state, the local governments and all other pertinent institutions.

Strategic measures

Creating flexible opportunities for pre-school education.

Flexible opportunities need to be developed for all children to participate in the curricula of preschool education at least one year before starting school, so that parents can be confident of the child's readiness for school. In order to achieve this:

- The local governments will create an appropriate number of childcare and kindergarten places, to fulfil the objectives of preschool curricula.

5.2. Creating quality opportunities for upper-secondary education.

Opportunities for good quality and diverse upper-secondary education need to be provided in all counties; in addition, good quality basic education in close proximity to home should be guaranteed. As a rule, upper-secondary schools are separate from basic school and reside under the State's competence. The network of vocational education institutions and upper-secondary schools is developed as a whole.

Necessary activities:

- In cooperation with the state and local governments, the network of upper-secondary schools will be restructured;
- A financing model will be developed and implemented to guarantee access to a good basic school in close proximity to home and to an upper-secondary school in the home county that offers multiple choices;
- An investment plan will be developed and implemented to modernize the infrastructure of basic and upper-secondary schools and to make optimal use of the space allocated to them;
- An investment plan will be developed and implemented for the cost-intensive support measures that special education schools and inclusive education need.

The investment principles for the educational infrastructure will be approved in the programme directed towards implementing the strategy that is being compiled.

5.3. Guaranteeing access to good quality vocational education and higher education that addresses the needs of the labour market

- Financing principles will be developed to increase the efficacy of vocational education institutions, to decrease the number of dropouts, and place greater value on quality. The results and effectiveness of these principles will be monitored;
- A reasonable division of tasks and clear areas of priority will be developed for higher education institutions;
- Financing principles will be applied to support fair access to higher education, the strategic choices of the State and higher education institutions, cooperation between Estonian higher education institutions and international cooperation. Monitoring of these financing principles will be also be carried out;
- An investment plan will be developed and implemented for guaranteeing the primary infrastructure for higher education institutions in priority areas outlined in the performance agreements.

5.4. Guaranteeing support services for those who participate in lifelong learning

The participation of all learners in studies that are proportional to their abilities requires the cooperation of teachers, educational institutions and external support specialists. In order for support services to be more efficient and readily accessible, the following activities are necessary:

- Standards for support services will be developed, which will allow offering services of equal quality regardless of the area or region;
- The efficient initial and in-service education of support specialists will be guaranteed, so that they will be familiar with the specifics of an education institution and will be able to include their colleagues in preventative strategies and problem solving.

5.5. Creating opportunities for people with lower competitiveness to participate in learning

Learning opportunities should be available to all members of society, particularly those with lower competitiveness in the labour market. This includes young mothers, the elderly, those who do not speak Estonian, people without secondary education, the unemployed, the disabled, new immigrants, etc., so that they can acquire a qualification and maximize their potential in their working life as well as in their family life.

Necessary cooperation activities between the State and the local government:

- Based on their needs, target groups will be offered flexible training courses to develop their key competences and to increase their readiness to learn. In different cultural institutions and learning centres (libraries, informal learning centres, etc.) individual and group learning opportunities will be created for learning and self-development, and targeted career counselling will be offered;
- Functioning principles of upper-secondary schools for adults will be adjusted and brought into line with the objectives of the Lifelong Learning Strategy (including allowing the use of prior learning experiences at the secondary education level);
- Apprenticeship schemes will be promoted among employers and potential learners;
- Support services will be offered (study counselling, career information, transportation support, childcare services), so that working people can participate in learning and retraining;
- Other social services and support programmes will be integrated with services that support a return to career studies and the labour market;
- People with a different native language will be offered Estonian language learning opportunities and other services to support adaptation and integration into Estonian society.

5.6. Implementing support schemes for university, vocational and general upper-secondary students

At the higher education level, a direction has been taken for the students to reflect the structure of the society from admission to graduation, including aspects such as gender, language and socio-economic factors, so that students will be supported when choosing specialities that are important for the State. There will be development and continual monitoring of a needs-based system of loans and support, as well as stipends. With the pooling of upper-secondary education into county centres, a needs-based system of support will be created and dormitories will also be available for upper-secondary school students.

5.7. Assisting graduates of non-Estonian language basic schools

For graduates of non-Estonian language basic schools, opportunities for learning Estonian will be provided at the independent language learner level, which is necessary for continuing studies in upper-secondary schools and/or vocational education institutions.

Necessary activities:

- Within the framework of the national programme, various initiatives to improve the level of Estonian language learning in Russian-language schools will be supported;
- Support will go to children with other native languages who want to continue their studies in Estonian-language schools (in-service education for teachers, after-school groups, multicultural studies, cultural history, etc.);
- In preschool children's institutions, appropriate age-related measures will be applied to provide good quality Estonian language learning. Children will be offered activities in the Estonian language, and the studies of children with other native languages in Estonian kindergartens will be supported.

Implementing the strategy

Implementation of the strategy will be coordinated by the Ministry of Education and Research, and others contributing to its implementation will be other ministries, local governments (as the school owners), professional associations, learners, teachers, school leaders, etc.

To monitor the application of the strategy, a 15 member lifelong learning steering committee will be formed, which will include experts from the field of education and employment[16]. Every two years, the steering committee will revise the implementation of the strategy and, as needed, will make proposals related to the further implementation of the strategy. For reaching the objectives of the strategy and implementing the activities, the Ministry of Education and Research will commission an independent assessment in 2018, where it will be analysed and decided whether appropriate measures have been applied to achieve the objectives that have been agreed upon, and what should be changed or adjusted due to changing conditions.

Three months after the adoption of the strategy, the Ministry of Education and Research will compile an Implementation Plan. This plan will show the planned activities together with the indicators, budgets and responsible parties according to a yearly plan. The Implementation Plan will also outline the most important activities for each strategic goal with reference to the programme that will be responsible for carrying out the respective activities (including planning, implementation, reporting, etc.). The Implementation Plan will be renewed yearly when the State Budget Strategy is compiled. Together with the renewed Implementation Plan, the Government of the Republic will be presented with a report of the fulfilment of the Implementation Plan for the previous period. Considering that regional and gender equality are also important issues in the development of the Lifelong Learning System, these factors will also provide a basis for monitoring strategic indicators and, as needed, proposals will be made for more detailed information in the Implementation Plan.

For implementing the strategy, the Ministry of Education and Research will compile the following programmes, based on the Development Plan and the Implementation Plan:

- General education programme
- Vocational education programme
- Higher education programme
- Adult education programme
- Teacher and school leadership education programme
- Learning resources programme
- Study and career counselling programme
- Labour market and education cooperation programme
- School network programme

Representatives from other relevant ministries will also be involved in the development of these programmes.

[16] Including representatives of employers and employees.

Annex 1: Key indicators for achieved goals

INDICATOR	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual	Estonian Goal 2020	EU Goal 2020
Key indicators							
Stakeholders' satisfaction with lifelong learning (central, regular survey)					-	Satisfaction has increased	
Percentage of adults (25-64) with general education only (no vocational or professional education) [17]	35	32	32	31.1	30.3	25%	
Adult participation in lifelong learning (% of persons aged 25 - 64 who stated that they received education or training during the four weeks preceding the survey) [18]	9.8	10.5	10.9	12	12.9	20%	15%
Early leavers from education and training (% of the population aged 18-24 with at most lower-secondary education and not in further education or training)[19]	14	13.9	11.6	10.9	10.5	< 9%	<10%
Men	19.8	18.4	15.2	13.1	14		
Women	8.2	9.3	7.8	8.6	7.1		
Employment rate of recent graduates (20-34 years old graduates - one to three years after leaving education, %) [20]	81.9	65	64.1	73.2	73.9	82%	82%
Digital competences (individuals aged 16-74 with computer skills, %) [21]		58		64	65	80%	
Top achievers in basic skills (the percentage of top performers) [22]	*2006*	*2009*			*2012*	*2018*	
Reading	6.0	6.0			8.4	10%	
Mathematics	12.6	12.8			14.6	16%	
Science	11.5	10.4			12.8	14.4%	
Comparison of general education teachers' salaries (Ratio of salaries to earnings for full-time, full-year workers with tertiary education aged 25-64) [23]		0.82	0.57	0.64		≥1.0	

[17] ESTAT. Labour force survey; analysis by the Ministry of Research and Education
[18] EUROSTAT 17.01.2014, Labour force survey
[19] EUROSTAT 17.01.2014 Labour force survey
[20] EUROSTAT 17.01.2014; youth, graduated ISCED 3-6 levels during three last years before the reference year
[21] EUROSTAT 17.01.2014, Information society statistics (t_isoc) C. ICT usage by individuals (t_isoc_bde15c)
[22] PISA share of 15 year-olds on 5. and 6. Levels
[23] Education at a Glance (2011, 2012, 2013, indicator D3)

I Change in the approach to learning							
Low achievers in basic skills (the percentage of low performers) [24]	*2006*	*2009*			*2012*	*2018*	
Reading Mathematics Science	13.6 12.1 7.7	13.3 12.9 8.3	-	-	9.1 10.5 5.0	7.5% 8% 5%	<15%
Drop-out rate from lower-secondary compulsory education [25]	0.9	0.6	0.5	0.5	0.6	<1%	
Boys	1.2	0.8	0.6	0.6	0.7	-	-
Girls	0.5	0.3	0.4	0.3	0.3	-	-
Drop-out rate [26] from vocational schools [27] from upper-secondary general education [28] from higher education institutions [29]	21.3 0.9	23.6 1.0	28.5 1.1	26,2 1.4 21.3	25.8 1.1	<20% <0.8% <15%	-
II Competent and motivated teachers and school leadership							
Percentage share of teachers (age 30 years and under)[30]	11.4	11.2	10.5	10.3	10.3	>12.5%	
Competition for study places in teacher education[31]						Competition has increased	
Percentage distribution of teachers in general education by sex (female: male)[32]			85.6:14.4	85.5:14.5	85.7: 14.3	75%:25%	
III Concordance of lifelong learning opportunities with the needs of labour market							
Share of tertiary graduates in Mathematics, Science and Technology (MST) as a percentage of all tertiary graduates [33]	20.5	19.4	20.5	21.1	22	25%	
Share of graduates of basic education who passed the career counselling						100%	
Share of graduates of basic education who continue their studies in upper-secondary vocational education[34]	30.4	29.9	26.3	27.6	28.6	35%	

[24] PISA (share of 15 year-olds below 2.level)
[25] EHIS
[26] EHIS (dropouts during 1st year of study)
[27] upper secondary vocational curricula
[28] Full time study
[29] Higher education curricula in higher education institutions and vocational schools
[30] EHIS
[31] Research methodology to be specified during data collection
[32] EHIS
[33] EHIS
[34] EHIS

Percentage distribution of upper-secondary students by orientation – general: vocational [35]	67.7:32.3	66.6:33.4	66.3:33.7	66.8:33.2	67:33	60%:40%	
Student mobility [36]	1.4	2.2	2.8	3.1	3.5	10%	
IV Digital focus in lifelong learning							
Percentage share of students (ISCED levels 1—6) who use computers, digital and mobile personal devices for studies every school day						100%	
Percentage of 8th grade students at digitally supportive schools [37]					33%[38]	100%	
Percentage of 8th grade students in schools with a virtual learning environment [39]					54%[40]	100%	
Percentage of graduates of basic education whose ICT basic skills are assessed and certified [41]						100%	
V. Equal possibilities for lifelong learning and increased participation							
Tertiary education attainment, age group 30-34 (%) [42]	34.1	35.9	40	40.3	39.1	40%	
Participants in early education (aged between 4 years and the starting age of compulsory education) (%) [43]	95.1	95.7	89.8[44]	89.1		95%	
Share of Russian-language school graduates who master the Estonian language at B1 level [45]				55.7	56.5	90%	
Share of labour costs of governmental educational expenditures [46] Inc. the share of teachers' labour cost of governmental expenditures on general education	55 36	58 37	57 39	55 38		60 50	
Optimization of the use of space in educational institutions (m^2) [47]					3.5 mil	3 mil	

[35] EHIS, students of upper-secondary curricula
[36] Internationalisation Report, 2012, SA Archimedes
[37] EU „Survey of Schools: ICT and Education". The digitally supportive school can therefore be defined as a school where policy and concrete support measures such as teachers' participation in professional development and the availability of an ICT coordinator are present, whether or not associated with a policy defined at school level (as a policy can be decided at central level and not reported by the school head in the present circumstances)
[38] Data of the 2011/12 school year
[39] EU "Survey of Schools: ICT and Education", virtual learning environment could include various possibilities, i.e study, tests, assessment, home assignment etc and include references to different materials and sources
[40] Data of the 2011/12 school year
[41] Research methodology to be determined during the strategy implementation
[42] EUROSTAT 17.01. 2014, Labour force survey
[43] EUROSTAT 17.01.2014
[44] Research methodology has changed from 2010 EUROSTAT data
[45] ESTAT, Balance data
[46] ESTAT, Balance data
[47] To be specified after EU 2014+ funding principles are available

Annex 2. Terminology

Digital culture is the culture of communication, learning and working that is unique to the digital age and characterized by self-expression, knowledge creation, communication in social networks, sharing and remixing – all done with the help of digital technology.

Digital learning resources or e-learning resources**:** learning materials that are published in a digital format (for example, online, in databases or on digital media), including e-textbooks, educational online videos and mobile applications, learning games, e-teachers' books, e-worksheets, web-based tests, learning projects.

Digital competency is the readiness to use digital technology to cope with the rapidly changing information society at work, in studies, in acting as a citizen, as well as in communicating with one's community.

Digital infrastructure is the digital hardware and software, with network solutions and information systems that are necessary for the education system to function. This includes laptops and tablets for students and teachers, local and broadband connections in educational institutions, education information systems and virtual learning environments.

Digital learning is using technology in the learning process in a targeted manner, to help achieve the agreed learning outcomes.

Lifelong learning includes the formal education system (kindergartens, secondary schools, upper-secondary schools, vocational schools, higher education institutions), as well as the learning that takes place outside of that system – in-service education and retraining, non-formal and informal learning in all its diversity. Opportunities for acquiring new knowledge and skills can be found in the workplace, in leisure time and hobby activities, or in a virtual space, where co-learning or individual learning can take place. Cultural institutions create curiosity and interest in learning; learning habits and value judgements can be developed in military service as well.

Formal learning mostly takes place in a school environment and is organized on the basis of curricula. Formal education has specific objectives and is conducted by teachers who are specially prepared and qualified. Learning objectives are mostly set externally, and the learning process is monitored and evaluated. Formal learning is mandatory until a certain level or age.

Informal learning from the learner's perspective is learning without a specific objective. It takes place in everyday situations (for example, in families, at work, during leisure time, etc.). The results of informal learning are mostly not directly visible for the learner.

A school in the context of this strategy is any educational institution – kindergartens, general education schools, vocational schools, higher learning institutions, hobby schools, informal training centres, and supplementary education institutions.

A school leader is the head of any institution of learning – kindergartens, general education schools, vocational schools, higher learning institutions, hobby schools, informal training centres, and supplementary education institutions.

Non-formal learning takes place outside of a school and is undertaken with a certain objective to develop oneself. Non-formal education can take place in very different environments (for example, in hobby education or supplementary education, but also in nature), where learning and teaching may not be the only objectives. Non-formal learning has an objective in the same way as formal education, but it is voluntary. It can be carried out by professional trainers or, for example, volunteers or peers.

Personal digital learning environment: an online environment that the learners can manage themselves to plan, document, conceptualize and, if needed, provide proof of learning experiences.

Key competences are competences (skills, knowledge, attitudes) that everyone needs to manage their work and home life, as well as to actualize their aspirations as an individual and a citizen. The European Parliament has defined the following lifelong learning key competences: mother tongue knowledge; foreign language skills; mathematical competence and knowledge about the basics of science and technology; initiating skills and entrepreneurship; cultural awareness and expression skills. The strategy especially emphasizes the need to develop creativity and the entrepreneurial spirit, problem solving and teamwork skills, critical thinking, analytical skills and digital competence.

Teachers are all those individuals who teach in kindergartens, general education schools, vocational schools, higher learning institutions, hobby schools, informal training centres, and supplementary education institutions, but also in museums and other cultural establishments, the defence forces, or who are mentors for learners in companies.

Approach to learning includes an understanding of the nature of learning, its goals, methods and the role of all the different parties in the learning process

In the Estonian Lifelong Learning Strategy, **Learners** refers to everyone – from children and youth to adults.

Tallinn 2014