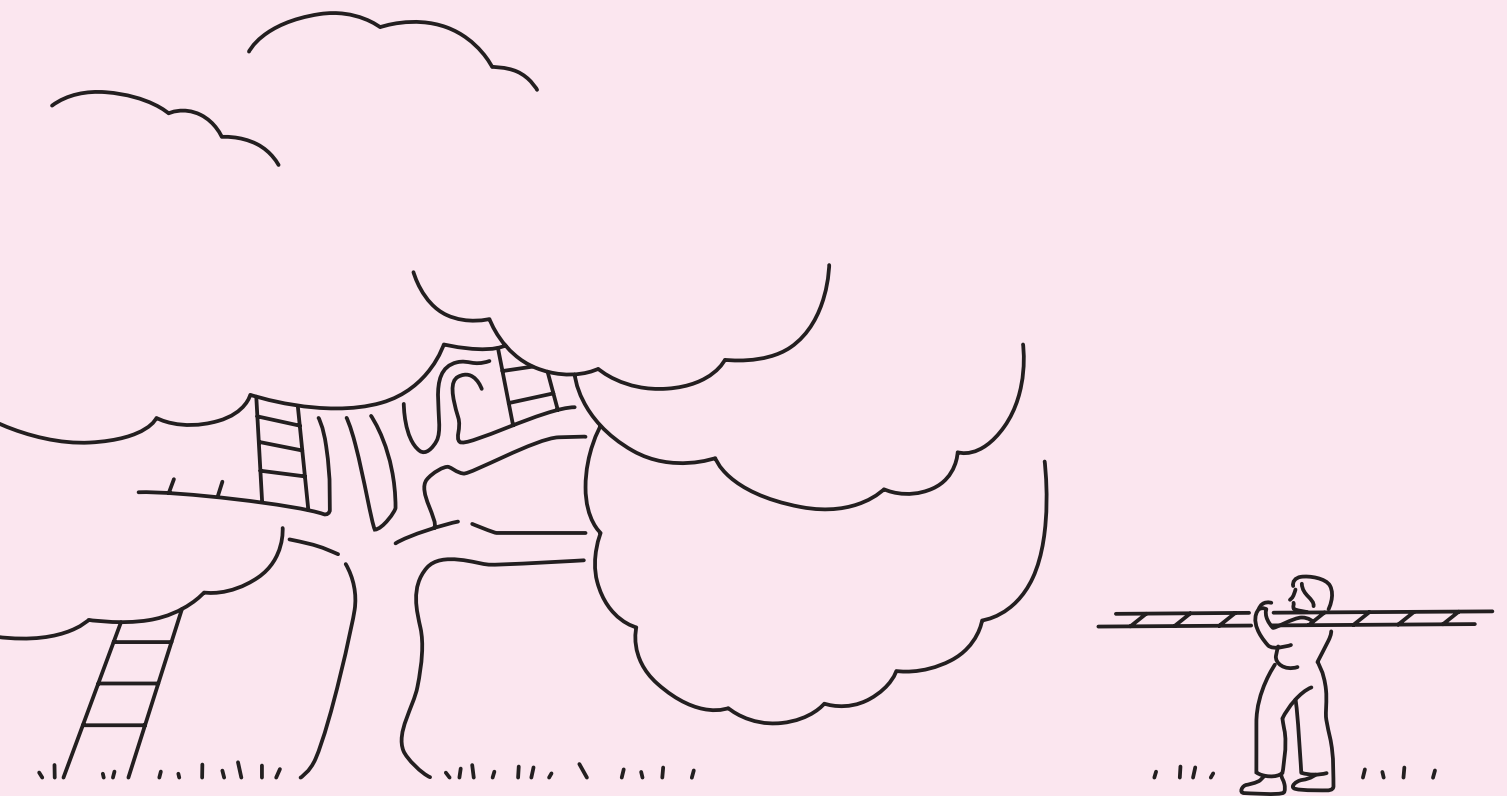


Continuous learning in Finland

Statement of the Future Competences Panel



FUTURE COMPETENCES PANEL



This statement was prepared by the Future Competences Panel, as appointed by the Ministry of Education and Culture.

The tasks of the panel include examining the development and effect of new technologies on competence needs; anticipating the development and alteration needs within education and making suggestions regarding the needs; promoting cooperation between higher education institutions, research institutes, and businesses on the sustainable utilisation of technology; and promoting a wider societal debate on the social impacts of technology. The panel was appointed in the autumn of 2017 and its work will continue until the spring of 2019.

The chair of the panel is Professor of Practice Anne Brunila, Hanken Svenska Handelshögskolan. The other panel members are Cristina Andersson, non-fiction writer; Olli-Pekka Heinonen, Director General, Finnish National Agency for Education; Martti Hetemäki, Permanent Secretary, Ministry of Finance; Kaarle Hämeri, Chancellor, University of Helsinki; Sanna Järvelä, Professor, University of Oulu; Jari Kaivo-oja, Research Director, Finland Futures Research Centre; Esko Kilpi, CEO, Esko Kilpi Ltd.; Paula Laine, Director, Strategy, the Finnish Innovation Fund Sitra; Anita Lehtikoinen, Undersecretary, Ministry of Education and Culture; Lauri Lyly, Mayor, City of Tampere; Ilkka Paananen, CEO, Supercell; Petri Rouvinen, Research Director, the Research Institute of the Finnish Economy (Etlä); and Riitta Salmelin, Professor, Aalto University. Secretaries of the panel are Matti Kajaste, Counsellor of Education; and Kari Nyyssölä, Head of the Foresight Unit.

FOR ADDITIONAL INFORMATION, PLEASE SEE:

<http://minedu.fi/hanke?tunnus=OKM047:00/2017>

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IMPLEMENTATION:

Kaskas Media Oy

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Finland's future is built on continuous learning

The change in working life touch everyone and every branch in Finland in one way or another. We must work together to make sure that we have the skills and competencies required in working life in the future.

Work will not disappear, but it will change. This was stated in the OECD analysis (2016) and the Government Report on the Future (2017). Despite this, the threat of robots replacing human work appears in the public debate from time to time. Is it possible that the change in working life might actually create more new work, rather than destroying existing work?

New kinds of work require new kinds of competencies. This is why the current change in working life presents a big challenge for competencies in Finland. The traditional path from studies to working life and, eventually, retirement, is becoming outdated. It is being replaced by the idea of continuous learning and life-long active participation.

The Finnish education system needs to be updated. An extensive reform of continuous learning is required to guarantee competencies. The reform would allow Finns to train or develop their skills and competencies in a flexible manner during their lifetime.

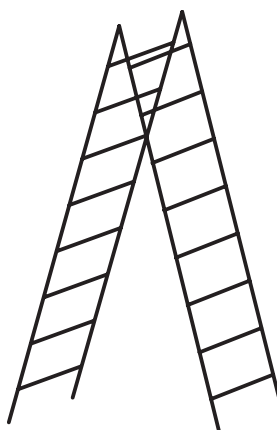
In practice, the reform would require a more flexible education system in terms of what is on offer. It would mean that people have easier access to appropriate training while they are working, and at work. Elements of the competence framework, such as taxes, social security, and various benefits, should also be systematically developed to encourage continuous learning.

The public sector, businesses, and the tertiary sector can all make a significant difference in the way Finnish competence is secured in the future.

CEO, Supercell

ILKKA PAANANEN:

"In the future, the original home country of a company will be increasingly meaningless. Competence is everything; the best competencies will win. Thus, Finland will be a future winner in the fields in which we have the best competencies. That, in turn, requires us to invest in building top-level expertise here in Finland and to attract experts from other countries to Finland."



Trends in working life

1. Changing technology

Digitalisation, machine learning, artificial intelligence. The dizzying development of technology has set in motion a huge change in the way we work. Progress in the automatisisation and robotisation of various tasks has been slow, but the pace will quicken in the future. Routine tasks will be replaced with technology as soon as it can be done in a profitable manner. Automatisisation and robotisation will be utilised at every level, and people will be assigned more and more tasks that require creativity, planning, critical thinking, and interaction and communication skills.

The race between developing technologies and developing competence is constant. If competence levels do not match the developments in technology, this will have an impact on both individuals and society. Employment and social exclusion will follow, and economic well-being will suffer. Then again, if competence levels and technology develop at the same pace, this will result in new jobs, businesses, and economic well-being that will benefit all.

2. Changing culture

In addition to the changing digital economy, and partly as a result of it, the working culture will also change. Individual employees will have more freedom and choice in planning their work and tasks. At the same time, they will have more responsibility for their results and for developing their competencies. All work will become more communal and network-based.

More and more people will work in a global environment, and work will become increasingly international. Employment will become less permanent, careers will become more diverse, and new kinds of jobs will emerge. Paid work will interlace with entrepreneurship, and more people will become self-employed. Having said that, the majority of employment contracts and occupations will remain as they are today. The change in working life will make continuous learning a natural part of life: work and learning will go hand in hand.

3. Changing structures

By 2030, nearly 50% of the Finnish labour force will retire. The younger generations will not be able to compensate for the labour force deficit created by this mass retirement. New technologies will increase productivity, thus compensating for some of the labour force deficit. Despite this, new labour will be required: immigrants and people previously outside the labour force and now entering working life through adult education.

Finnish companies are also facing structural changes. The average age of companies has already decreased significantly. Many traditional jobs have disappeared and entire industries have been forced to face the changes. At the same time, new occupations, jobs, and tasks have emerged, and they are not tied to any particular place or time.

FINLAND'S STRENGTHS IN CHANGE

Finland is in a good position as it faces the change in working life. Despite a dip in the Pisa results, the quality of basic education is still very high in comparison to the international level, our social system is trusted, and Finland is a strong expert in the fields of artificial intelligence, robotisation, and automatisisation.

Although Finnish companies have been slow in waking up to the development of new technological opportunities, many large and traditional companies have begun investing in new technologies and introducing new products and services to the market successfully. In the past 20 years, business opportunities for finding funding, partners, technologies, and expertise in the international markets have improved. Finland has seen the emergence of new, creative start-ups and a solid game industry. Entrepreneurship is a growing trend.

The education system as a provider of alternatives

The idea of continuous learning challenges traditional study paths. The current education system needs to be modified to offer more freedom and alternatives.

The education of children and young people cannot be the only approach to the changing working life. Learning must be continuous. We need to implement an extensive reform of continuous learning in Finland. The reform will give every citizen an opportunity for life-long development of their skills and competencies.

In order to enable continuous learning, the reform will need to cover the entire education system at all levels. We need to find new ways of interlacing work and training in a flexible manner throughout careers, and we need to develop learning environments, training opportunities, and social incentives that will guarantee everyone the opportunity for life-long learning.

There are numerous ways of developing competencies. In addition to traditional qualifications, future experts will be looking to build their skills and competencies on education available in Finland, and on education and training available globally, online, and in working life.

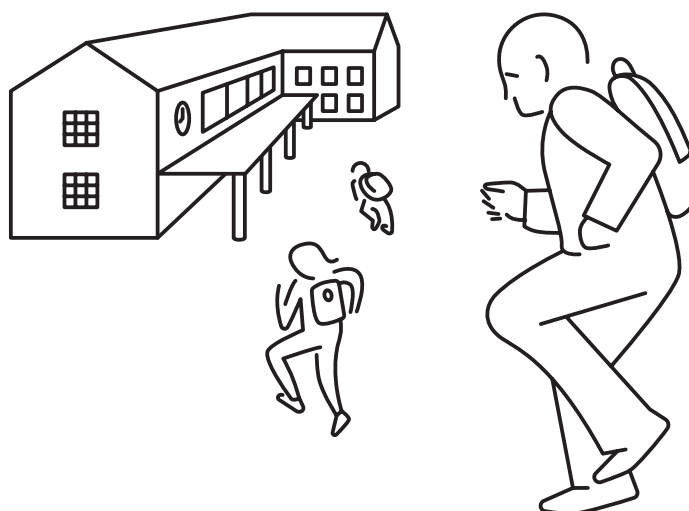
Students will need to have more choice in terms of the content of their studies, rather than ready-packaged qualifications alone.

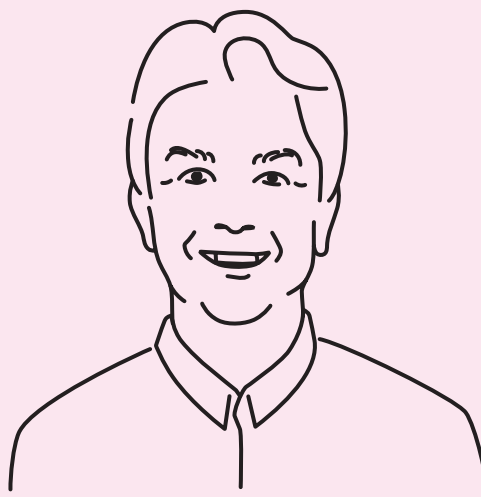
In the short term, we need to develop an adequate number of cross-cutting and flexible study modules to be offered side by side with traditional qualifications. These may include training packages and conversion courses. The desire to gain new competencies starts with the needs of a customer or citizen. Good examples of this include the SmartNation and FutureSkills programmes in Singapore. These allow every citizen to acquire new skills at any point in their life.

If there are many channels for gaining competencies, there must also be reliable methods of verification and recognition. The existing systems can be utilised in this, along with competence data banks, certificates, and combinations of these. Surveys of the competence data banks will provide tools for comparing existing competencies with the needs of working life, and for anticipating future challenges in this field.

Director General,
Finnish National Agency for Education
OLLI-PEKKA HEINONEN:

“We should think about continuous learning as a monumental reform of the education system, similar to the introduction of compulsory education in its time.”





“Education needs to meet the needs of real life”

Mika Le Gall, 44, has four qualifications and a colourful employment history. He found his latest job as a coder after a 12-week accelerated learning programme.

“I was working as a legal services assistant in administration when I learnt that there were going to be staff cuts. I began to think about new directions and saw an article in a newspaper about a 12-week training course on coding. It said that all participants would be guaranteed a job after the course.

I have a vocational qualification in business and administration, further qualifications in secretarial studies and computer mechanics, and a bachelor’s degree in business administration, but I had no experience of coding. Still, I decided to apply.

The application process was lengthy and included many stages. You were also required to have no income for three months prior to the course. I might not have been able to do it without the promise of a job after the course.

The course lasted 12 weeks, preceded by a 4-week period of independent studies. The course was intensive and efficient. The days were long, and we spent the evenings doing homework. The first few weeks of the accelerated learning programme went by in a coma-like state, but then my brain got used to absorbing information quickly.

At the moment, I am working for two separate customers on three different projects. Learning about coding did not stop when I finished the course. In fact, I am spending this spring in training provided by my employer! I do not just do coding at work, as I have previous experience of the European data protection decree, for example.

Earlier, I was not clear on what I wanted to do. The course helped me realise that I want to run digital projects and deal with customers. Perhaps that is why I had been drifting from one job and qualification to the next. I did not know. Of course, the employment situation also played a part in this. There were times when I sent out 150 job applications and was invited to just a few interviews.

I know that my training is not over, not with the way technology is developing. I also have plenty of things to learn outside technology, such as self-leadership and social interaction skills. After all, technology is only a tool; this is more about interaction between people. We need to concentrate on that.”

Opportunities for continuous learning for citizens

People will need to take more responsibility for their competencies. Studying will no longer be the focus of only childhood and youth: it will be more evenly spread through our lives. This means that we will need better learning skills.

The changing working life means changes for everyone in Finland. In the future, everyone will need to be more involved in developing their competencies. Good learning skills are the key: flexible learning, and learning while working and at work will be increasingly important.

It is difficult to anticipate exactly how working life and jobs will change and what kinds of jobs will emerge. Big changes require motivation and enthusiasm when it comes to acquiring new skills and occupations, and we also need to be flexible and willing to live with uncertainty.

In the future, people will work for numerous employers in their lifetime, and most likely in several different occupations. More and more of us will be entrepreneurs at some stage, and many will combine paid work with self-employment.

Director, Strategy,
the Finnish Innovation Fund Sitra

PAULA LAINE:

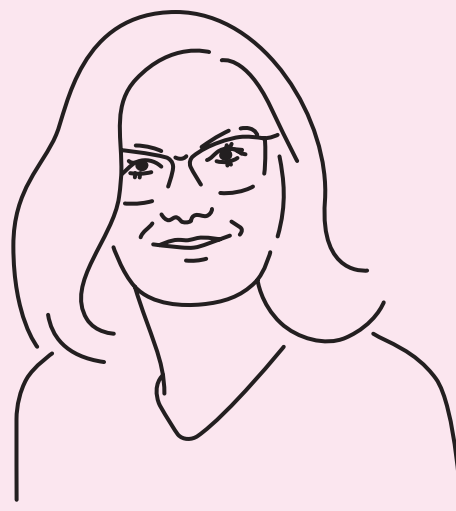
“We need to give up chronological thinking, the idea that the education we receive in our youth will carry us through life. We need to shake up our thinking models. Do we have the right to work that corresponds to our education – or the right to education that corresponds to the work available?”

The world in which one qualification achieved in a vocational college or university will set you up for life, has changed. In the future, Finns will most likely have different careers in their lifetime. We will also work in branches and tasks that do not even exist yet.

The continuous learning reform will provide every Finn with access to training, or opportunities to develop their skills, several times in their life, if necessary. In the future, we must be able to change our careers in a flexible manner, according to our wishes and the demands of the labour market.

In addition to the education system, the tertiary sector, including associations and organisations, will offer diverse courses to help us cope with the change in working life. We must also involve civic society in continuous development, and make sure that we utilise the valuable practical experience of the changing working life found in associations and organisations. Providers of non-formal adult education could use the changing working life to find a new direction in which, rather than only offering leisure-time activities, they would also offer people flexible ways of developing themselves in order to find new careers.





“A deeper self-knowledge is required of pupils as they prepare for working life”

Subject teacher, study counsellor, and tutor **Juudit Ehrnsten** makes sure that her pupils have the skills for life-long learning.

“Why are you making me decide this for the rest of my life?” Many school-leavers ask this as they decide whether to go to upper secondary school or a vocational college. Many young people still have a rigid and outdated idea of working life and careers. I always tell them that they do not need to worry about the rest of their life now. You can always change and redefine your plans.

The best way to find your strengths is to try things. Making younger and younger people make choices worries me. We have pupils in year 8 that struggle with making choices for their future. A diverse general education and social skills are the keys to preparing pupils for life-long learning and the fast-changing working life. A solid base will allow them to go in any direction. When you gain learning and management skills at a young age, you will find it easier to retrain for anything later on.

The future working life seems undefined and uncertain. In my opinion, the best way to fight uncertainty is to have strong self-knowledge. We need to encourage pupils to recognise their strengths and interests. We also need to share different career stories in class. I often talk to my pupils about the things that I have learnt from having a colourful career.

Unfortunately, the resources for study counselling are scarce. We do not have time for discussions, even though the best way to support pupils when they are making decisions would be to just be there for them. In this hectic world, there never seems to be enough time for genuine presence.

Study counsellors are an important link between the school and the rest of the world. Comprehensive schools, in particular, should work more closely with businesses, in order to allow pupils to learn about working life and give them opportunities to try the skills and tools required. Study counsellors provide the schools with information on the developments and requirements of working life.”

Businesses to take a stronger role in continuous learning

Businesses are at the core of the change. In the future, they will need to participate actively in the development of employees' competencies.

For businesses, the changing working life means that the competence level of their employees must constantly be improved. In addition to the education system, businesses are also responsible for the development and organisation of education and training.

Employers are also responsible for combining work and continuous learning: businesses need to be active and flexible in interlacing work and the continuous development of competencies, so as to anticipate the skills and competencies required in the future. Strong cooperation between businesses and universities and other education providers will play a key role in the future.

We will need to develop and implement new learning environments and solutions together with business life. In order to meet their specific needs, businesses in Finland should be more actively involved in training new employees. Businesses know best the types of competencies they require. At the same time, we must also offer support and training in, for example, internationalisation to businesses that are willing and able to grow.

Non-fiction writer

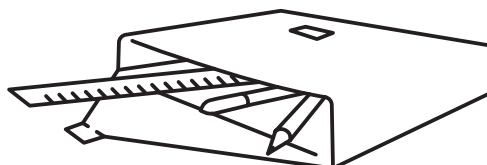
CRISTINA ANDERSSON:

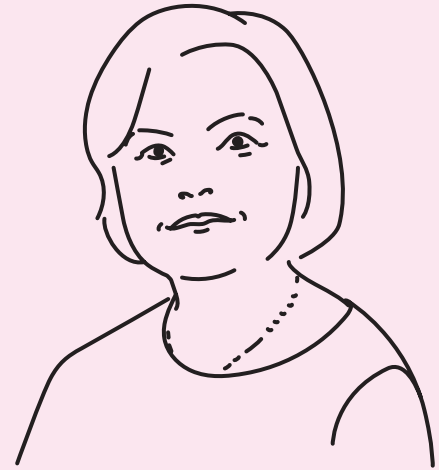
"We need to make everyone understand the basics of robotics and artificial intelligence. We must also ensure that businesses make use of these technologies."

CEO

ESKO KILPI:

"The first industrial revolution one hundred years ago democratised consumption; this industrial revolution will democratise production. Developing technologies are dramatically reducing the cost of production tools, and making room for creating new value outside mass production. What used to be possible for large businesses only, is now possible for small ones, too. What used to require an organisation can now be produced by an individual. We are living the golden years of democratising possibilities."





“Not one job in the bank is safe from the change in working life”

Financial giant OP has begun piloting new methods of retraining employees. It is early days, but according to the Director of HR, **Maija Laaksonen**, they come across needs for new competencies almost every day.

“Here, the change in working life will affect everyone’s jobs. It means that competencies can no longer be developed in annual performance reviews; additional measures are required.

OP has more than 12,000 employees, meaning that our internal labour market is huge. We have incorporated retraining paths in our internal recruitment processes. They enable people to seek new positions and receive diverse induction training regardless of their backgrounds.

Technology has already changed some jobs. For example, our study-loan applications are processed by a robot. This means that we need someone to code and maintain the robot. Our decision to diversify our services outside banking has also created new jobs. Of course, we are not turning bank clerks into doctors, that is not what conversion courses are about.

We must be able to identify the competencies that will become outdated and the new competencies that will be required. Then we need to think about bridging the two.

I do not believe in storing up competencies; timing is the key. This is demanding for management; we have realised that we must continue to update and develop our views, as the future prospects keep changing. Supervisors also play a key role in enabling and supporting new jobs.

As the change in working life touches all employees, we also have a responsibility to prepare for it and keep up communication. That way, no-one will be able to say they did not know about the change.”

The public sector guards against inequality

The biggest threat posed by the change in working life is inequality. Society must offer citizens tools and security for facing the change.

Change is inevitable in working life. However, political decision-makers and the public sector have a say in the real impact of the technological, demographical, and social changes on competencies. The most important task of the public sector is to anticipate the changes and offer the citizens alternatives and solutions for building their personal, sustainable future.

For example, individuals are not solely responsible for the development of their competencies. The public sector and the education system must also offer people practical tools for doing this.

The most serious threat that the change in working life poses for Finnish society is inequality; a significant increase in income disparity and, thus, an increase in perceived inequality and deprivation. There is a risk that a larger proportion of people will be left out if the available work and existing competencies do not match.

We must restructure our social security system to meet the demands of the changing working life. In the future, we will also need to look at taxes and the measures aimed at combining work and education from the aspect of the changing working life. The best way to prevent inequality is to ensure a good and flexible education system. The expectations are great.

Professor, Hanken School of Economics

ANNE BRUNILA:

“Countries that are able to anticipate future changes and rebuild the social and economic structures in a flexible manner will also be able to tap into the potential of new technologies and avoid the threatening prospects of running out of work. In order to seize the opportunities and create new, successful businesses and jobs in Finland, we need to restructure our education system, but also our legislation, social security system, and labour market.”





“The new norm is to train people several times during their lives”

Society needs more labour. At the same time, we fear that technological development will take away jobs. The mayor of Tampere and a member of the panel, **Lauri Lyly**, shares his ideas about this contradiction.

“I have seen enough technological changes over the years to know that the tendency is to overreact. Technological changes are always presented with the focus on threats, when we should also be thinking about the opportunities.

New technology is always expected and feared to take away our jobs. It is not often the case, however, that something new will entirely replace something old. Take the internet, for example. Today, it is part of our everyday life and it has changed the way we do many things. New technologies do not reduce the work carried out by humans as such, but they do change the work.

The need for labour and disappearing jobs are simultaneous trends. The contradiction comes from feelings of uncertainty. By nature, people seek security; we like to know what will happen. Work will disappear, but it will be replaced with new kinds of jobs; the kind we cannot even imagine today.

This is why we need to concentrate on building the competencies that help us to face the change. The key here is to be willing to learn. We should have a competence base on which to build, and one that is easy to adapt. The new norm is to train people several times during their lives.

A labour shortage is largely about not recognising people’s competencies in society. For example, unemployment statistics say almost nothing about competencies! The next challenge in society is to build systems that make people’s competencies visible. Such systems will also tell us how to complement each person’s competencies.

In general, society needs to create mechanisms that keep people safe in the changing working life. For example, moving or retraining to find work must be turned into safe, structured changes, with social support and training.”

Finland is already reacting to the change in working life

The government has already launched projects aimed at responding to competence development needs and the change in working life.

- There are measures to increase participation rates in early education. The positive effects of early education on study paths remain visible for decades.
- The school reform supports teachers in the implementation of the new curricula and the utilisation of new technologies. The new curricula for comprehensive school emphasise the extensive skills of the future, along with traditional knowledge.
- The natural sciences and mathematics network (LUMA), the Joy of Learning Multiliteracies programme (MOI), and the National Literacy Forum are responding to the challenges presented by the fall in learning results by engaging and encouraging children and young people to learn and to find their individual strengths.
- The upper secondary school reform enables students to select more extensive study modules that cross the borders of traditional subjects. Cooperation and international aspects within universities will also be incorporated into the operating culture of upper secondary schools.
- Vocational education has already been reformed. A personal competence development plan is prepared for each new student. More and more studies and skills are taken to actual workplaces.
- The Ministry of Education and Culture's vision for higher education and research in 2030 strives for the opportunities of continuous learning, and individual and flexible study paths in higher education. Other objectives include increasing international activities and improving the level of education.
- The second part of the Government Report on the Future will be finalised in summer 2018. It will discuss the promotion of competencies and the role of the education system in terms of the working life of the future.
- The government has launched a project for the reform of basic income security (TOIMI) and has appointed a parliamentary monitoring group for the project.
- A steering group appointed by the Ministry of Economic Affairs and Employment is preparing a proposal for Finland's artificial intelligence programme.
- The Ministry of Social Affairs and Health has launched a national well-being programme (AiRo) aimed at promoting the development and utilisation of smart services and robotics.

Minister of Education

SANNI GRAHN-LAASONEN

“Considering competence in terms of continuous learning rather than as a one-off investment is a huge change in the way we look at education. Succeeding in this change will give Finland excellent opportunities for successfully managing technological change.”



Ministry of
Education
and Culture