

TOWARDS LIFELONG LEARNING

The shared aim, funding principles and challenges



To the reader

This publication outlines an aim shared by 30 societal actors that will help everyone in Finland benefit from lifelong learning. The report outlines the key challenges to achieving this and the funding principles that will assist in the implementation of this aim. The Foreword and Chapters 1 to 4 were included in the "Towards lifelong learning" report published by Sitra in February 2019. Chapters 5 to 7 are new content. Sitra is committed to promoting lifelong learning based on these jointly formulated views and its work in this area will continue until the end of 2021.

Sitra is a future fund that collaborates with partners from different sectors to research, trial and implement bold new ideas that shape the future. Our aim is a Finland that succeeds as a pioneer in sustainable well-being.

© Sitra 2019

Sitra studies 159

Towards lifelong learning

The shared aim, funding principles and challenges

ISBN 978-952-347-127-6 (paperback) ISBN 978-952-347-128-3 (PDF) www.sitra.fi

ISSN 1796-7104 (paperback) ISSN 1796-7112 (PDF) www.sitra.fi

Erweko, Helsinki 2019

SITRA STUDIES is a publication series that focuses on the conclusions and outcomes of Sitra's future-oriented work.





Sitra studies 159

Towards lifelong learning

The shared aim, funding principles and challenges March 2019

Contents

Contents	1
Foreword	2
1. Introduction	5
2. The purpose of lifelong learning	8
3. Change drivers	11
3.1. The speed of change challenges existing systems	12
3.2. There will be an emphasis on change as a foundation for sustainable	
economic growth and well-being	13
3.3. Diversity will increase in society	15
4. Four theses on lifelong learning:	18
1. Everyone learns throughout their life	19
2. General knowledge, basic skills and competence are the foundations of well-being	23
3. Competence improves working life and working life improves competence	27
4. Finland's success is based on competence	31
5. Challenges: why is it so difficult to make changes?	35
5.1. Who bears the responsibility for ensuring that people's competence does not become	
outdated during their careers?	38
5.2. Should everyone have the opportunity and obligation to develop their competence	
regardless of the type of benefit?	40
5.3. Is the shared money allocated in the right way for building the competence of adults?	41
5.4. Can we afford to exclude some people from participation in society, competence	
building or working life?	43
5.5. If more money is needed for lifelong learning, where do we source it from?	44
5.6. What share of the public funds allocated to the competence building of the working-age	
population should be provided directly to individuals?	46
5.7. Should we discuss charging fees for education?	47
5.8. How can we manage lifelong learning as a cross-cutting phenomenon?	48
6. Funding principles	49
6.1. Decisions concerning competence building and the development of working life must	
be based on a policy of lifelong learning that spans all administrative sectors	50
6.2. Funding enables raising the competence level to boost the potential of the whole	
working-age population	51
6.3. Funding and steering enable the promotion of sustainable working careers	
by strengthening the competence of individuals	52
6.4. Supporting the development of organisations to become learning communities	53
6.5. Strengthening of education, research and innovation boosts the national	
and an artist and a growth	54
7. How was the shared view of 30 societal actors generated?	55
Final words	57
Sources	60

Foreword

Throughout history, the ability of humans and communities to learn new things has been a life-supporting force. Incredible achievements have given us pleasure for and helped us go through fire and water, if necessary.

The emphasis on the importance of lifelong learning is growing ever greater as digitisation and globalisation transform our everyday lives, working lives and communities at an unprecedented pace. The well-being and competitiveness of Finland are based on high levels of competence, so we must keep up with this rapid progress.

Fortunately, there is a broad understanding in Finland that improving and updating competence is one of the major opportunities of – but also a major challenge to – our society in the coming years.

The starting points for a lifelong learning policy should include having a positive image of humanity, the fostering of the personal growth of individuals in situations of change and taking advantage of technological developments in learning.

On one hand, automation, artificial intelligence and robotics may change or even replace current work tasks and functions, but, on the other hand, they may also give rise to new jobs. It is still unclear which of the changes will be stronger. The only certain thing is that the changing world of work requires new kinds of skills and competence from employees. We believe that the future will also give rise to new opportunities to exploit everyone's competence.

Close international co-operation is required for finding solutions to global challenges. While technological development can present challenges, it also offers major opportunities for reform – whether that be in the ways of working, the working environments or support for learning. It is very likely that work in the future work will be safer and more pleasant and productive for employees. Furthermore, developing technologies enable the development of more tailor-made competence services.

For several decades, the typical path of learning in Finland has consisted of the formal education people acquire in their childhood and youth, and ensuing on-the-job development. In many cases, this has taken us far enough, providing jobs and food on the table. Nowadays, that equation may no longer work. When the competence required in working life changes so rapidly, the challenge of having to learn new things concerns the working-age population to a greater extent, regardless of their educational background.

Finland had established its reputation as a leading nation for education as early as the 1970s and that reputation has been maintained throughout the following decades. In international comparisons, Finland has ranked high in terms of the level of education, but we have not been equally successful in improving the competence of the adult population in every respect. This is also shown by statistics: even though Finland has a relatively high unemployment rate, the growth sectors are still suffering from a lack of competent labour. This indicates that there is room for improvement particularly in the structures that are designed to further the competence of the working-age population. Although international comparisons reveal that Finns participate widely in adult education, the level of participation has decreased. There are still people who do not have opportunities to develop their competence and skills in a systematic manner.

To succeed in transitions, we need to update our way of thinking concerning competence building. The competence attained throughout primary and secondary education does not suffice for succeeding in the labour market, nor can we leave competence development rest upon the assumption that after the acquisition of their first qualification people will learn by doing. We need new kinds of ways to support continuous learning at work, during free time and leisure time, and in families' everyday lives.

The idea that learning only takes place in schools is also outdated. In the future, enhanced efforts must be made to make competence building happen alongside work and as part of work, a belief that is widely held to be necessary for society to change but one that is still not the most common way of building competence.

In the future, competence can be supported and produced in a much more broad-based manner than today by finding profitable and sensible ways to bring education and training providers, employers, technology developers and other providers of competence services together. The acquisition of education and training and competence building benefit the whole of society, so all parties must bear responsibility for developing competence.

According to Sitra's report "With what money?" (Millä rahalla?), Finland spends approximately 19 billion euros on developing education each year. It still remains partly unclear how these investments turn into competence. Therefore, more research information is needed on the effectiveness of both public and private investments in education. Only with the help of knowledge can we channel our common funds to activities that enable us to achieve the objectives set for well-being as efficiently as possible. In the future, impact assessment should be taken into consideration when educational reforms are in the planning stage.

Ideally, knowledge of the effectiveness of public investments will help decision-makers implement a lifelong learning policy in which effective investments in competence prevent the need for corrective actions later in the individual's life. It is a question of not only the sustainability of the public finances but also of leading a meaningful life, and everyone having opportunities to improve their minds.

The future competence system must be attached to the building blocks that constitute the necessary foundations for our competence. These include high-quality early-childhood education open to everyone, guaranteeing future generations the opportunities to learn new skills, and a strong reputation for basic and applied research. In the future, it must also be possible to produce competence in increasingly wider-based networks. It must be ensured that everyone has a chance to improve their competence in all life situations.

Our shared view was created during the joint discussions facilitated by Sitra in autumn 2018 and at the beginning of 2019, which our organisations were invited to attend.

In a wider sense, lifelong learning is not only about competence, competitiveness and well-being but also about the core of our society – education, inclusion and prevention of social inequality. We want our society to have confidence in the future and in people to enable creativity, personal development and learning for everyone throughout life.

Jarkko Eloranta, President, Central Organisation of Finnish Trade Unions (SAK)

Sture Fjäder, President, Confederation of Unions for Professional and Managerial Staff in Finland (Akava)

Jari Gustafsson, Permanent Secretary, Ministry of Economic Affairs and Employment Olli-Pekka Heinonen, Director General, Finnish National Agency for Education Martti Hetemäki, Permanent Secretary, Ministry of Finance and Office for the Government as Employer (VTML)

Iiris Hynönen, President, University of Applied Sciences Students in Finland (SAMOK)

Jyri Häkämies, Director General, Confederation of Finnish Industries (EK)

Markku Jalonen, Director General, KT Local Government Employers

Timo Kietäväinen, CEO, Keva

Timo Lankinen, Permanent State Under-Secretary, Prime Minister's Office

Anita Lehikoinen, Permanent Secretary, Ministry of Education and Culture

Sanni Lehtinen, President, National Union of University Students in Finland (SYL)

Leena Linnainmaa, Chair, Finnish Association for the Development of Vocational Education and Training (MAKE)

Olli Luukkainen, President, Trade Union of Education OAJ

Jessica Makkonen, Chair, Finnish National Union for Students in Vocational Upper Secondary Schools (OSKU)

Risto Murto, President and CEO, Varma Mutual Pension Insurance Company

Jyrki Mäkynen, President, Federation of Finnish Enterprises

Jukka Mönkkönen, Chair, Universities Finland (UNIFI)

Jouko Niinimäki, Chair, Finnish Education Employers

Antti Palola, Chairman, Finnish Confederation of Salaried Employees (STTK)

Harri Peltoniemi, Director, Finnish Education Evaluation Centre

Jouko Pölönen, President and CEO, Ilmarinen Mutual Pension Insurance Company

Juho Romakkaniemi, President and CEO, Finland Chamber of Commerce

Suvi-Anne Silmes, Managing Director, Finnish Pension Alliance (TELA)

Päivi Sillanaukee, Permanent Secretary, Ministry of Social Affairs and Health

Hanna Tainio, Deputy Managing Director, Association of Finnish Local and Regional Authorities

Elias Tenkanen, Chair, National Union of Vocational Students in Finland (SAKKI)

Tapio Varmola, Chair, Rectors' Conference of Finnish Universities of Applied Sciences (Arene)

Björn Wallén, Chair, Finnish Adult Education Association

1. Introduction

Finland's success story is a narrative of competence, equal opportunities and equality. It is a story of how we as a society have succeeded in making far-reaching choices, the benefits of which we are reaping today. It has not always been easy to generate ambitious solutions for the promotion of competence and education: the comprehensive school reform, initiated in 1972, was overshadowed by the beginning of the international oil crisis, and the financial aid for students in its present form was mainly developed during the darkest years of the 1990s recession.

Today, in an era of global competition, an ecological sustainability crisis and digitisation, we must dare to rethink what the best way of producing competence is. To an increasing extent, investments in competence must be seen as investments in Finland's success and its capacity to regenerate itself.

Rapidly changing competence requirements, basic skills that need updating and reforming work tasks require new methods for the competence building of the working-age population in particular, raising the level of competence of immigrants, and better use of competences and skills no matter how they have been acquired. We must find new ways of identifying and recognising different types of competence. We must ensure that the growing elderly population have the prerequisites for managing in an increasingly technological and global Finland. Furthermore, we must be able to address these challenges in such a way that, at the same time, we take care of building a competence base for the future: we cannot compromise on teaching and the high-quality education of children and young people.

Investments in future competence must not be seen merely as continuously growing

needs for education-sector resources.

The productivity of investments made in competence can be enhanced by reforming the ways of producing and acquiring competences and by dividing the existing resources in a new way. From the perspective of the sustainability of public finances, it is essential that we can reliably show the nature of the additional resources required as investments in the future.

The ongoing change in our operating environment is of historic proportions, concerning not only education policy but also other fields of society. Other new challenges include redefining Finland's global competitive factors, addressing the requirements of a changing working life, the use and development of the competences of immigrants, and an agile reform of public-sector structures.

Still, responding to the needs of the labour market is only one perspective on lifelong learning. Another equally important viewpoint is related to education and personal growth in a wider sense. Even in the future, the promise of social mobility and social inclusion will continue to be strongly associated with an increase in competence and general knowledge. Such opportunities must also be offered more systematically throughout people's working careers.

Improving the competence needed for working lives and everyday lives requires that we understand the forces of change at play in an interdependent world. In other words, the objectives of broad general knowledge and labour market competence are not mutually conflicting, but rather complement each other.

Current administrative reforms – including the planned reforms of social welfare and healthcare services, regional government and social security – create their

own challenges for any educational reforms. The improvement of competence must be synchronised with these other reforms. At best, this would lead to the creation of an ecosystem of continuous learning, where the competence needs of learners, communities and society could be responded to in an as effective manner as possible.

To be able to succeed in a competencebased economy and amid global competition, Finland needs a reform of lifelong learning that responds to the needs of the new era and the changed world.

At the same time, the ecosystem operators and beneficiaries should be seen in a wider perspective than they are today. We need to know more about the qualitative needs of change in competence and understand the incentives and conditions for competence building and educating oneself from the perspectives of individuals, communities and society. We must establish a framework where competence building is as worthwhile and sensible for all parties involved as possible.

To be able to succeed in a competencebased economy and amid global competition in the future, Finland needs a reform of lifelong learning that responds to the needs of the new era and the changed world.

Rethinking how competence is produced requires a careful assessment of the societal division of responsibilities and the sources of funding for education. We need to understand that the nature of work is

changing, moving increasingly in the direction of learning new things and creative problem-solving.

First and foremost, we need to change our way of thinking: it is time to make a shift from an educational system towards a "competence system", with the educational sector remaining an integral part of the latter. However, we should be able to produce competence in a more broad-based manner than before. In other words, in addition to the existing education providers, we also need private education providers, employers, hobby-related and organisational actors, and developers of learning technologies to create this future competence system.

Based on the observations outlined above, 30 experts from key organisations within education, employment and the public sector were invited by Sitra to create an aim for lifelong learning.

The groups worked together in workshops held by a co-ordination group (see page 58), in meetings with the follow-up group (see page 4) and in field events, where a large group of education developers, learning experts and other people interested in the subject also participated in the building of a shared aim.

The foundation for co-operation was the background studies conducted and the aims formed for the future of lifelong learning by the organisations involved in the work. In addition, broad-based research materials were also used to support the work.

The background material also included Sitra's report "With what money?" (Millä rahalla?), which creates a picture of the money flows around lifelong learning in Finland and interview material gathered by Sitra. Interviews were carried out with the management of the organisations involved, experts on education and human resources managers of different types of companies.

By the time the soon-to-begin government term is nearing its end, 50 years will have passed since the comprehensive school reform that enabled the provision of sufficient basic skills for every Finn. This is the reform for which Finland has been known around the world, as is still revered for today. High-quality basic education open to everyone has probably been the most important singe factor contributing to Finland's success story. However, the times have changed: our standard of living has improved considerably and our understanding of what everyone should be capable of has been updated.

Finland will not retain or even regain its leading-country status in education and competence by relying on past successes and outdated structures. To succeed in a competence-based economy and amid fierce global competition in the future, we need a reform of lifelong learning that responds to the needs of the new era and the changed world that we can be proud of for the next 50 years.

The shared long-term aim for lifelong learning consists of the purpose of lifelong learning (Chapter 2), the underlying change drivers (Chapter 3), theses on lifelong learning based on a shared view (Chapter 4), the challenges emerging in the public debate (Chapter 5) and the funding principles based on a shared view (Chapter 6).

FIGURE 1. THE VARIOUS LEVELS AND PHASES OF THE WORK



The purpose of lifelong learning

What kind of a meaning does lifelong learning have in the life of an individual, the operations of communities and the whole of society?



Change drivers

With the change drivers we strive to describe the direction of change: for what kind of world has the current system been built? How have the circumstances changed? In what direction will change lead us in the future?



Aim

The aim refers to the ideal way in which things should be in the future. For example: "Learning needs are responded to in a diverse, flexible and agile manner."



Challenges

What obstacles might need to be overcome along the way in order to implement the aim?



Funding principles

The funding principles propose policies that can be used for supporting the implementation of the aim.

2. The purpose of lifelong learning

Lifelong learning has been an education policy goal since the 1960s. UNESCO launched the concept at the Conference on Adult Education held in Montreal in 1960. The UNESCO definition combines a humane value base, an aspiration for democracy and the ideal of continuous human growth. The EU, OECD and UN have also defined the concept in their own ways. However, in practice, different countries and politico-administrative systems implement the principles of lifelong learning in accordance with their own definitions that partly differ from each other.

In literature written on the subject in English, the conceptual contents included in learning and education can be considered to merge in certain respects with the concept of lifelong learning.¹

"In the future, life-cycle thinking divided into three phases will no longer define the course of a person's life. Studies, working career and retirement overlap as part of the entity of work and learning."

Olli-Pekka Heinonen, Director General, Finnish National Agency for Education

In Finnish society, the history of lifelong learning has mainly mirrored the history of popular education movements and adult education that rapidly expanded in the post-war years. Lifelong learning has been traditionally associated with an individual's

personal endeavours to grow as person and to continuously better oneself. Often, these objectives have been accompanied by philosophical or ideological influences arising from different value bases.

In recent years, lifelong learning has increasingly been talked about in economic terms, and its association with traditional popular education or adult education has weakened, at least at the level of political speech. The current parlance is often based on the notion that an individual's attachment to society mainly takes place through participation in productive work, and that employability and labour market competence require continuous learning from everyone. Public debate also often refers to the changes needed in civic skills in the face of the advance of digitisation.

Current discussion about lifelong learning also includes a relatively broadly shared view that we are shifting or we have partly already shifted from a life cycle divided into three phases, where studies, working career and gradual retirement follow each other, to a new situation characterised by the alternation and overlapping of work and learning. We have seen the number of changes in an individual's working career increase. Working as a wage-earner and entrepreneur, studying, and other forms of developing competence or becoming self-employed are becoming a part of the reality of an increasing number of people of working age.

Depending on the perspective, lifelong learning may have different purposes. In this study, the need and benefits of lifelong learning have been examined from the perspectives of society, communities and individuals. By communities we refer to private and public-

¹ Anneli Kajanto, Jukka Tuomisto: Elinikäinen oppiminen, 1994

sector employer organisations, educational organisations, third-sector operators and leisure-time communities.

The societal examination of the theme is related to general education and inclusion as well as the financial sustainability and competitiveness that can be achieved by improved competence.

Finland's economic success has traditionally been built upon export sectors that take advantage of the high level of competence and produce high added value. Their competitiveness is based on specialisation, and the quality and reputation of products and services. In the future, the pursuit of high quality and high added value will require even more robust competence from employers and employees.

Competence is needed for Finland to be able to develop and apply increasingly productive technologies.

"Studying is a joyful matter — even as an adult."

Tapio Varmola, Chair, Rectors' Conference of Finnish Universities of Applied Sciences Arene

It is important to note that political decision-making cannot directly affect the quality of products and services, whereas it can affect the conditions of learning and acquisition of competence. The leverage provided by the application of technological innovations cannot be transmitted to the economy without a sufficient level of competence.

Furthermore, the state will continue to play a significant role in the development of radical innovations and opening up of new markets and growth opportunities.

From a societal perspective, general knowledge enabled by lifelong learning also improves the legitimacy of democratic decision-making and strengthens the societal agency of citizens. A well-functioning democracy needs educated citizens. One of the specific characteristics of democracy is associated with its strong links with the ideals of general and popular education: we get the decision-making systems, good or bad, that we deserve. In the early years of the US Constitution, this is how Thomas Jefferson put it: "Educate and inform the whole mass of the people. They are the only sure reliance for the preservation of our liberty."

At the level of communities, lifelong learning is about competitiveness, competent labour, learning organisations and an active civil society. If we want every Finn to participate in continuous competence building, we must recognise that the resources for developing competence available to families, for example, are limited in different ways in various phases of life. The resource that the working-age population and working adults most often lack is time. This emphasises the role of workplaces as learning environments and enablers of learning. In many situations, changing salaried employment for study, even part-time study, is not economically feasible or motivating.

The impact of developing competence on the productivity of work and, eventually, on the quality of products and services is indisputable, so employers also have a natural interest in advancing the competence of their employees.

In qualitative terms, competitiveness can be seen in the form of being able to develop products and services more rapidly than competitors and in a direction that better meets the customers' needs. In the increasingly digitised global operating environment, the need for speed requires learning communities and workplaces. Therefore, the ability of the future competence system to support companies and communities in situations where the working life and the competence requirements are changing is a critical success factor when it comes to Finland's competitiveness. The workplace is currently the most significant learning environment for many Finns and will remain so in the future.

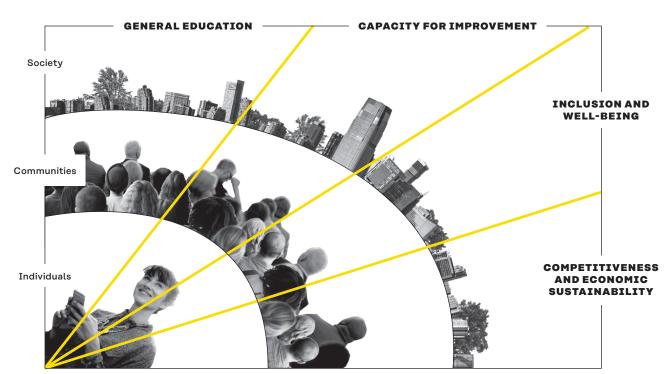
Learning takes place not only in the official education system and via on-the-job learning but also in one's spare time and through the pursuit of leisure interests. Approximately 1.4 million Finns are involved in voluntary work, and the number of annual voluntary working hours is around 170,000 person-years. For

example, for young people, hobbies and voluntary work may function as an important route into the labour market if only we knew how to accurately identify and recognise the competence accrued in these activities as part of studies and work experience.

For individuals themselves, lifelong learning offers keys to economic success, the ability to engage in democratic participation and an opportunity for continuous personal growth. From an individual's perspective, up-to-date competence is a significant factor affecting work capacity: if an employee is left too far behind in the building of his or her personal competence, at worst, he or she may be exposed to health-threatening psycho-social stress factors.

Improved competence and general knowledge help us understand the complex and interdependent world and an internationalised Finland, as well as grasp the meaning of our own lives as part of society. In a world where there is a continuous flood of information, it also functions as a compass that steers us towards the sources of reliable information.

FIGURE 2. THE PURPOSE OF LIFELONG LEARNING



3. Change drivers

Our existing education system has served Finland well. At the start of the 1990s, the Finns were the world's most highly educated people.

In practice, the education level of the adult population has been rising since 1866, when the first elementary schools were established. However, this upward trend if plateauing and in some cases beginning to decline.

In the light of current information, those born in 1977 seem to be the best-educated age group in Finland for the time being.²

When we examine long-term economic development using GDP and the productivity of work as indicators, we can conclude that the rise in the level of education has significantly improved our material wellbeing as well. Using almost any indicator, Finland is among the world's most successful countries. By the beginning of the 2000s at the latest, Finland had practically caught up with the Western European countries and the United States in terms of the standard of living.

However, after the recession that began in 2008 and continued in Finland slightly longer than in our competitor countries, the growth of the productivity of work has slowed down, indicating that the hours worked no longer generate growing added value. In economic terms, such a period is

referred to as slow growth. According to Professor Matti Pohjola, the halting productivity growth is a sign of "a lack of ideas that speed up the growth of added value, of having lost the recipe for growth".

Productivity growth is significantly affected by the development and deployment of new technologies. As a contributing factor to technological development and innovation capacity, competence is an important but not the only variable. An ambitious innovation policy creates the preconditions for the use of intellectual capital and competence in all sectors of society. Digitisation and the increase in services in the economy underscore the importance of intangible value creation and provide new methods for creating value. When formulating the future competence system, it is important to observe the fundamental connection that production of competence has with innovation policy, research and development, and product development. This is one way of ensuring that our education system produces the kind of competence that can be efficiently used in working life. On the other hand, systemic understanding of research, product development, innovation policy and education may in the future help increasing numbers of work communities develop in the direction of learning communities.

² Aleksi Kalenius: Taustamuistio talouspolitiikan arviointineuvostolle.

 $https://www.talouspolitiikanarviointineuvosto.fi/wordpress/wp-content/uploads/2018/01/\ Kalenius_2018.pdf$

³ Matti Pohjola: Suomen talouskasvu ja sen lähteet 1860–2015.

https://www.taloustieteellinenyhdistys.fi/wp-content/uploads/2017/09/ KAK_3_2017_176x245_WEB-8-34.pdf

In other words, the rise in the level of education seems to have slowed down and productivity growth has halted.

The third statistical change of significance relates to the development of the dependency ratio of the Finnish population. In the coming years, the size of the workingage population will continue to decline, while the average age of the Finnish population will grow. As a result of this development, Finland's dependency ratio, the ratio of those not in the labour force and those in the labour force, will decline. For this reason, it is particularly important to influence the employment rate. When it comes to practical measures, it is important to ensure that as many Finns as possible are well or very well prepared and have sufficient ability to participate in productive work. The same opportunities must also be ensured for those with partial work ability.

The changes described above will force a change in the basic assumptions upon which the present Finnish education system and the practices for competence development have been built. We will outline these change drivers in the following chapters.

3.1. The speed of change challenges existing systems

The deployment of new technologies has a major impact on competence needs. Historically speaking, the productivity of work has grown and will continue to grow because of technological development. Technological advancement can be illustrated by the example of the computing power of computers: so far, Moore's law, according to which the number of transistors in a dense integrated circuit doubles about every two years, has held true.

Combined with the qualitative development of transistors, this has signified an exponential growth in computing power. The amount of recorded data in the world has increased at an even higher rate than this. In practice, every leap in data processing speed and opportunities has been greater than the previous one.

However, the increase in computing power requires that the number of highly qualified researchers and technology developers also needs to increase every year. This aptly describes the relationship between competence and technology: a rapid technological development requires a growing level of competence and increasing numbers of experts. Correspondingly, the faster the technology advances, the faster competence needs to be updated to ensure that the productivity of work can be boosted with the help of new technology.

Still, not all work tasks are aimed at producing technological innovations. Changes in industrial and professional structures have also changed the nature of many work tasks: what used to be manual and physical tasks today require increasing amounts of cognitive and social abilities.

Any tasks that are relatively easy to automate have already been largely automated. For the remaining tasks, and new ones, the emphasis is on creativity, interaction between people, personal assistance and provision of personified products or services.

This poses a major challenge for the learning system of the future: we must ensure sufficient competence to be able to develop better products and services, while taking care of the development of human abilities.

BEFORE TODAY IN THE FUTURE



The economy grew and the demand for competence was slow. For most people, the qualifications provided by the education system were sufficient for ensuring employment and a livelihood for the rest of their lives. Competence was updated at and by work, if any update was necessary at all.



Accelerating technological development and the globalisation of work are changing the competence requirements. The education system awards qualifications and encourages the learning of new skills. There is an emphasis on the need for continuous learning as work tasks change. Complementary ways of learning are being developed.



Competence will be increasingly improved and recognised outside the education system. People will continuously complement their basic skills regardless of their employment situation. Certified competence is produced through a new kind of co-operation between the education system, working life and unofficial networks.

Technology will also change traditional business revenue models, when the applications of, for example, the platform and sharing economy diversify even more and intertwine with conventional operation logic. Even today in digital platform ecosystems consumers and producers generate entities and encounters that create new kinds of value. Improving competence is required to ensure even more extensive use of the opportunities that exist and of those that have yet to materialise.

However, improving competence cannot mean completing a new qualification or part of a qualification each step of the way, but, in the future, it must be made possible for everyone to combine education, work and spare time into a goal-oriented entity of learning.

3.2. There will be an emphasis on change as a foundation for sustainable economic growth and well-being

One reason for the need for greater levels of competence that will act as a foundation for economic growth and the funding of well-being is the ongoing change in the structure of the population.

According to a population forecast published in 2018, the size of the workingage population in Finland will decline

 $^{^4 \,} Tilastokeskus: \, V\"{a}est\"{o}ennuste \, 2018-2070. \, https://www.stat.fi/til/vaenn/2018/vaenn_2018_2018-11-16_tie_001_fi.html$

substantially without immigration.⁴ From the point of view of public finances, the key question is whether immigration increases or lessens the sustainability burden on public finances. Therefore, we should ensure that we can make maximum use of all the competence available in Finland, or from elsewhere, in the Finnish labour market. If we lack the kind of competence that would

lead to people finding employment, we must be able to provide such competence to those needing complementary skills, in all population groups. From the viewpoint of a well-functioning daily life, family policies are also important: we must support the strengthening of the kind of society in which competent people from other countries want to stay and live.

BEFORE TODAY IN THE FUTURE



Stable labour-intensive economic growth and positive productivity development ensured the funding of wellbeing services. The growing population guaranteed the provision of a sufficient workforce. The majority of Finns were in productive employment.



Productivity development
is slowing down, and
economic growth is
increasingly dependent on
international competitiveness.
Competitiveness requires
competence and a society
capable of reforming itself.
The lack of skilled labour is
becoming an obstacle to growth.



The need for the decoupling of economic growth and well-being from overuse of natural resources has been acknowledged and there is an emphasis on the importance of improving competence as a source of well-being. New challenges include attaining a sufficient level of competence and the integration of competences and skills acquired in different ways.

"Competence is part of our intellectual capital by which we enhance our work ability and overall productivity. In addition to information capital, future experts also need healthy selfesteem, an ability to empathise and community skills. Support provided for these resources helps young people in their growth and creates foundations for a good life both at work and in one's spare time."

Päivi Sillanaukee, Permanent Secretary, Ministry of Social Affairs and Health

> The second underlying factor that affects competence is the ecological sustainability crisis. Globally, economic development based on overconsumption has led to global warming and a decline in biodiversity. From the viewpoint of this global challenge, the kind of growth Finland is striving for makes a major difference. International agreements and stricter regulation will probably restrict the prerequisites for future success of industrial sectors relying on traditional fossil fuels and the overuse of natural resources. whereas low-emission solutions aimed at sustainable development will benefit from growing markets and more relaxed regulation.

Ultimately, competence also means new ideas and innovations. Overall productivity is the contributing factor to the productivity of work that we can affect the most by enhancing competence. The calculated overall productivity is determined as the ratio of qualitative and quantitative inputs to the economic output. The most significant factor increasing overall productivity is intellectual capital, from where ideas and innovations for the development of products and services arise.

If we want to see ideas and innovations as an engine for growth, they must be powered by competence. In other words, we need investments in education, innovation and research. If we want to boost the economy, the productivity of work must be further enhanced because it is unlikely that we could significantly influence the size of the workforce, at least in the near future.

3.3. Diversity will increase in society

The changes in Finland's economic structure, population base and working life have one feature in common: an increase in diversity. The economic restructuring can be described as a transition from an agrarian society into an urbanised service society and, later, into an information society and global economy. The present era characterised by a data economy, artificial intelligence and automation is sometimes called the Second Machine Age⁵ and sometimes the Fourth Industrial Revolution⁶. Rapid changes in work tasks and competence requirements are a typical feature of this age.

As the economy and work become global, the relationships and interdependence between countries are also deepening.

⁵ Erik Brynjolfsson, Andrew McAfee: The Second Machine Age, 2014.

⁶ Klaus Schwab: The Fourth Industrial Revolution, 2016.

This leads not only to new opportunities and challenges for international business activities but also to a greater need for support and guidance. On one hand, Finnish excellence is driven by an increasingly diverse range of nationalities and cultures, but, on the other hand, we encounter completely new and individualised needs for support and guidance. Addressing these needs poses a new challenge for our education system. Still, technology using data already enables the development of increasingly individualised education and guidance services. In the education sector, the opportunities brought about by digitisation are often related to new, more human-centric operating models and business opportunities.

In addition to cultural changes and shifts in the population structure, diversification is also descriptive of the development of business logic and revenue models. For example, the opportunities offered by the platform economy should not be underestimated even though, for the time being, they represent a small share of the provision of products and services. The consumption habits of the millennials, for example, already show signs of increasing sharing and access to shared services alongside owning. For the time being, there is no justifiable reason to assume that following generations will be any different when it comes to consumption. A lot of learning also takes place in digital environments, and this learning is partly based on access to free materials and content.

"In a diversifying society,
individuals and communities need
new ways of encountering each
other. Competence needs to change
all the time, and learners need
sufficient support and guidance
throughout their lifelong learning
path. It must be possible to steer
individuals through particularly
rough patches as well."

Sanni Lehtinen, President,
National Union of University Students in Finland SYL

"Competence shall be improved to respond to the needs of working life. Finland must have competence that ensures three million jobs."

> Jari Gustafsson, Permanent Secretary, Ministry of Economic Affairs and Employment

BEFORE

TODAY

IN THE FUTURE



A homogeneous society (business structure, culture) offered its members opportunities for social mobility and personal development. **Employment relationships were** stable, and productivity growth manifested itself as positive income development. The need for support is exceptional and occurs only occasionally.



Heterogeneity is increasing: the economic structure is changing, cultural diversity is increasing, regions are becoming more diverse and the population is ageing. The need for support and guidance is increasing and diversifying.

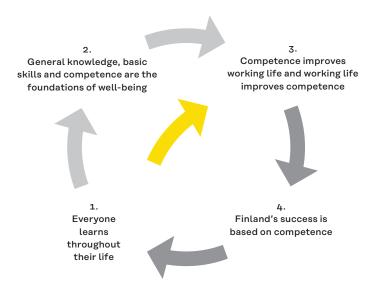


Diversity will be the new normal, and different communities and networks emerge. Creative destruction is changing regions, the economic structure and jobs. The need for support and guidance is individualised.

4. Four theses on lifelong learning

The aim for lifelong learning is based on the change drivers described in the chapter above and divided into four entities.

FIGURE 3. FOUR THESES DEFINING THE AIM FOR LIFELONG LEARNING



The four main theses describe the long-term aim for lifelong learning (Figure 3). The aim is condensed in the thesis "Everyone learns throughout their life", and the subsequent theses describe the objectives set for lifelong learning in more detail.

The aim as a whole contains observations on long-term educational needs, and a response to these observations is provided in the thesis "General knowledge, basic skills and competence are the foundations of well-being". On the other hand, the development of the competence needed in working life must also be guaranteed by meeting short-term competence needs,

which are described in the thesis "Competence improves working life and working life improves competence". Improving competence during one's working career and adult life should largely take place alongside work or as part of work. This is illustrated by the yellow arrow in the middle of the diagram.

Creative destruction and the transformation of working life will also in the future create situations in which competence must be updated by completing an entirely new vocational qualification or higher education degree. To deal with such situations, sufficient financial support and guidance must be available for career planning and choosing a suitable field of education.

Completing a new qualification should not, however, be the primary way of updating the competence of the working-age population. Instead, competence building should increasingly take place alongside work and be integrated into work.

The fourth thesis "Finland's success is based on competence" crystallises the reason why everyone's competence should be developed.

Below, we introduce this shared aim and the theses describing the kind of lifelong learning policy we want to support and produce.

1.

EVERYONE LEARNS THROUGHOUT THEIR LIFE

A society that believes in the future and trusts people enables creativity, personal development and learning for everyone throughout their lives. Active participation and a willingness to improve oneself create the preconditions for the individual's and society's well-being.

Our goal is a society in which all people build their competence throughout their lives and use it for their own benefit and for the benefit of others. Progress comes from knowledge and research. The assumption is that everyone of working age participates, according to their competence and functional capacity, in working, competence sharing and building, or other activities that produce societal value.

The primary way of participating is paid employment, but activities that improve the individual's life situation are supported financially. In an equal society, structures and guidance do not discourage anyone from learning and improving themselves.

The following points outline the goals and desires that we are striving for.



The continuous building of competence is genuinely possible for everyone.

The availability of education and other opportunities for competence building must be ensured for individuals and communities everywhere in Finland. It should be possible for everyone to supplement and improve their competence regardless of unemployment, partial work ability, the nature of their current work, age, background and origin, the form of their employment relationship or other ways of working, or the structure of their workplace. Uncertainty about income must not prevent individuals from building their competence or make them passive in any other way. The continuous development of competence is realised at different stages of life through closer integration of education and other ways of learning.

We want there to be ways of competence building that are better suited to individuals' needs and life situations. What is needed at a systemic level is a comprehensive overlap of the education system and other means of learning. Learning communities, such as workplaces and organisations providing leisure-time activities, will in future account for a significant proportion of learning environments. Furthermore, continuous multidisciplinary and cross-disciplinary research is required, as well as assessment of learning, competence building and education. We want to develop methods that can be used for assessing the effectiveness of the measures taken to promote continuous learning.



Responses to learning needs must be diverse, flexible and agile.

For society to be able to respond to the constantly changing competence needs, the education system and the other forms and preconditions for competence building must be developed together. Better and more diverse planning is required at different levels of society and at different intervals. The education system should support lifelong learning, verify the competence gained outside Finland's formal education system and ensure its quality. Education leading to a qualification, other studies and

learning that takes place within and outside working life must be used in a variety of ways that are appropriate from the point of view of the targeted learning outcomes. Flexibility also means breaking down boundaries between different levels of education, making it possible to combine learning content from across different educational and training institutions. Competence acquired in various ways must be identified and, as appropriate, recognised by formal qualifications.



Everyone should be supported to take responsibility for learning and developing a passion for personal competence building.

The joy of learning must be fostered as it is a precondition for the development of individuals and communities and sustainable well-being. If an individual's competence or functional capacity is not sufficient for finding employment in the labour market, they must be offered other ways to develop

and participate in society. Everyone's participation is important, and no one is bought out of working life. Participation is based on a shared understanding of how important competence is and what kinds of factors affect the ability and motivation to learn and develop.



Guidance is needed in all life situations, especially during transitional phases. Services must be integrated and comprehensive.

Support and guidance services are provided as a result of smooth co-operation across sectoral and administrative boundaries. They enable the individual to become self-directed and work communities to develop towards learning communities. This way, everyone will be able to assess their own competence and better anticipate the changing competence needs. The support and guidance provided

must be diverse so that it can serve people of different ages in different life situations and different transitional phases. Examples of transitional phases include those at every grade of education, transferring from one employment position to another or changes in family circumstances. Employers and communities must also be supported in different transitional phases as necessary.



Individuals and communities can make their competence visible and utilise it.

We want the competence of Finnish people to be made visible. It is important that, in terms of employment, active participation, making use of competence and building one's own learning career, everyone knows their own competence and is able to make use of it. An individual's understanding of his or her own competence helps them to

succeed in the changing world of work and respond to its competence needs. Up-to-date information on the state of competence and the development needs is also essential for the development of communities. It is vital for companies and communities to have an understanding of their intellectual capital and to be able to develop their capabilities.

"We respond to the transformation of work and support well-being by means of competence building. We need to strengthen the culture and policies that support continuous learning, but we also need targeted measures in the sectors undergoing transition. The solid foundations given by primary and secondary education provide a basis for everything else."

Anita Lehikoinen, Permanent Secretary, Ministry of Education and Culture and Elias Tenkanen, Chair, National Union of Vocational Students in Finland SAKKI



2.

GENERAL KNOWLEDGE, BASIC SKILLS AND COMPETENCE ARE THE FOUNDATIONS OF WELL-BEING

Experiences of participation and succeeding maintain stability in society. General knowledge and continuously maintained basic skills ensure the opportunity to find one's place in society and live a meaningful life amid a raft of changes.

Our goal is to enable everyone to gain the basic skills and general knowledge required for a good life, employment, work ability, acting as a member of society and participation. To enable a person to learn, their basic needs and well-being must be taken care of. When the education system is developed, it must be constantly ensured that results improve, and the quality of competence is high. Basic skills and general knowledge strengthen the integrity of our society and support the individual in coping with transitional situations.

The following points outline the goals and desires that we are striving for.



Children's and young people's resources and confidence, and their motivation to learn and enjoy learning, are supported comprehensively by the education system and other growth environments.

Safe communities play an important role in the development of children's and young people's self-esteem, in their ability to empathise and form a world view, and in their brain development. Individuals' self-appreciation and understanding of their own skills govern the way they define their objectives and goals. We need comprehensive support, starting from childhood, for developing the resources of

individuals' to enable everyone to acquire sufficient life-management skills, an understanding of self-efficacy and community skills. Education systems and other growth environments must be developed to provide equal learning opportunities for all ages, regardless of differences in the starting level. Comprehensive support must be provided for the development of these skills and abilities.



Everyone will acquire the basic skills and competence corresponding to basic education and upper-secondary qualifications.

We will ensure that everyone has the level of skills and competence required for succeeding in working life and society. This level must also be provided and ensured for immigrants and for those who do not have

these skills. In this context, skills refer to the EU's definition of the key skills for lifelong learning. The development of basic skills starts with the family and the immediate community in early childhood.

^{*} Resources refer to the concept of human resources. Resilience (flexibility, perseverance, ability to cope), belief in the future and self-efficacy are elements of human capital.

^{**} The key skills for lifelong learning (EU): 1) literacy competence in the mother tongue; 2) multilingual competence; 3) mathematical competence and competence in science, technology and engineering; 4) digital competence; 5) learning-to-learn competence; 6) social and citizenship competence; 7) a sense of initiative and entrepreneurship competence; and 8) cultural awareness and expression of competence. The co-ordination group of this report emphasises that other essential basic skills with a view to lifelong learning include self-efficacy, thinking skills, community skills and the ability to take care of one's functional ability and work ability. Thinking skills are part of the transversal competence that a pupil needs in the management, use and application of information and in the creation of new knowledge, problem-solving, logical thinking and decision-making. (Curriculum, hel.fi, in Finnish).



Everyone can maintain and improve their basic skills throughout their life. The availability of education must be ensured, and individuals must be provided with suitable support and learning environments.

From the point of view of improving basic skills, the availability of education must be safeguarded throughout life, regardless of the impacts of regional and population developments. Solid general knowledge enables one to participate in society and to understand diversity. Diverse opportunities to strengthen the basic skills related to work

and free time must also be available to the adult population. Technology constantly offers new increasingly individualised opportunities to develop learning and work. These opportunities must be actively seized in educational institutions and other learning environments.



Qualifications will continue to be important. Qualification structures, content and pedagogy are developed by anticipating educational needs and by responding to changes in society and working life.

Qualifications will continue to be needed in the future. Being jointly defined measures of competence, qualifications help society and working life to build, identify and make use of competence. The importance of qualifications also becomes emphasised when structuring new competence needs and creating foundations for competence. The contents of qualifications are under constant development, and various new learning modules are being produced alongside the existing qualifications in an increasingly flexible manner to meet the rapidly changing competence needs.



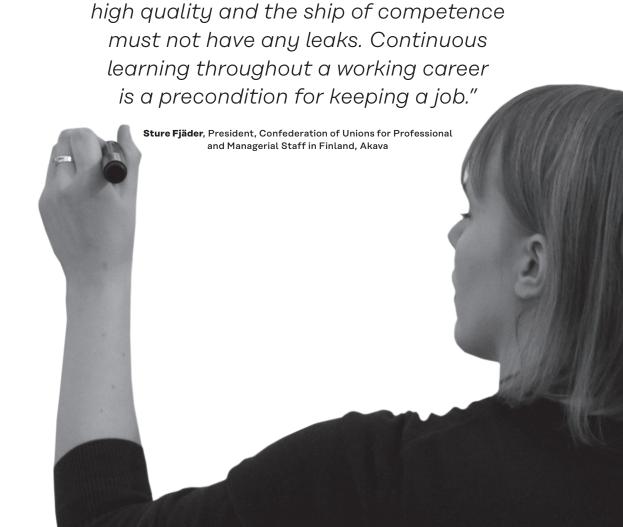
There needs to be a recognition of the central role that art, culture, physical activity and sport play in building general knowledge and encouraging participation.

Art, culture, physical activity and sport build people's general knowledge and understanding of themselves. At the same time, they provide different ways and places of learning and build skills that the official education system does not provide people with. "The prerequisites for work ability and participation in society are a solid general knowledge and basic competence, as well as the ability to continuously improve one's competence. Everyone should have basic competence equivalent to at least upper-secondary qualifications.

The education system must encourage learning and collaborate closely with the employment sector, and it must observe the individual needs of learners."

Timo Kietäväinen, CEO, Keva

"The whole education chain must be of



3.

COMPETENCE IMPROVES WORKING LIFE AND WORKING LIFE IMPROVES COMPETENCE

Finland has the best preconditions in the world for network-based learning, the strengthening of competence and innovative creations. New competence is increasingly created in a changing working life and in other informal places of learning. The education system supports the reform of working life.

Our goal is to change the way of thinking about strengthening competence. Shared expertise, the generation of new knowledge and competence building improve the quality of work, lead to success at work and increase productivity. This is the reason why people and organisations seek to join learning ecosystems in which research

directly contributes to the development of the activities. At the same time, learning becomes more effective for everyone. Finland creates operating preconditions for networks in which the producers and users of information meet each other. It is to society's advantage that as many learning networks as possible are open to everyone.

The following points outline the goals and desires that we are striving for.



Finland will learn to predict structural changes, which will ensure a continuous improvement in the competence of the workforce and will extend working careers.

Proactive structural reforms improve the ability to systematically reform society and working life with the help of research information and foresight work. By studying the effects of megatrends, it is possible to prepare for the challenges resulting from global changes and for alternative development trends. It must be ensured that the measures planned in different policy sectors support each other. What is needed is an analysis of the overall impact of the different changes and co-ordination of the related decision-making.

Because the implementation of proactive structural reforms requires a lot of societal debate and a shared understanding of the challenges that can be expected, the reforms must be planned in the long term. The development and utilisation of technologies, the reform of the national infrastructure and the strengthening of competences are also time-consuming. For example, when an industry evolves or an entirely new one emerges, new technologies must be created, the ways of thinking must be reformed and the competence and professional identity of large groups of personnel must be updated, all at the same time. For this reason, employers and work communities must be supported in the reform process. It is also essential to enable those outside working life to update their competence. At the same time, the ability to manage sudden structural changes improves.



Finland creates the best preconditions in the world for broadbased ecosystems in which learning takes place together.

The goal is an international operating environment in which interacting organisations and sectors, including research institutes, higher education institutions, educational institutions, companies, and public and third-sector bodies, create new information, competence and added value. We must support the creation of new types of learning communities, learning networks and ecosystems, which different participants can easily become a part of. We must improve the business skills of small companies in particular and promote the diverse competence of their employees so

that these companies will be able to join these ecosystems and benefit from them. The openness of the education system will ensure that the competence and new information generated in education will be available for everyone.

Research, competence and learning clusters provide attractive operating environments for network-based co-creation and learning. The more efficiently information, innovations and competence are spread between the different areas of society and between individuals, the stronger is society's competitiveness and ability to make decisions.



Learning is easily available in working life and competence can be exploited to the full.

Everyone must have easy access to places of learning regardless of their employment situation. Learning opportunities must also be ensured for people who do not have a job. Learning must be enabled in the working culture and advantage must be taken of even the smallest opportunities to learn. Places for

learning must be continuously developed and they must be constantly available. Competence building must be possible for organisations, whatever their size. Open and flexible ways of producing and validating competence make individual and efficient learning paths possible.



Educational institutions are given a stronger role in supporting learning that takes place in working life and elsewhere.

Their role is also strengthened in the demonstration of competence produced at work. The improvement of competence increasingly happens in workplaces. Taking an agile approach to updating competence requires that all competence, regardless of how it has been accumulated, can be made use of at work. The change we want to bring about requires educational institutions to strengthen their presence in working life. Educational institutions provide pedagogical

guidance and other specialist expertise to support and validate competence building that takes place at work and alongside work. People should not be unnecessarily moved from employment positions to the education system when there is need to re-educate competence. However, the main responsibility for the provision of basic skills, general knowledge and qualification-based competence remains with the education system.



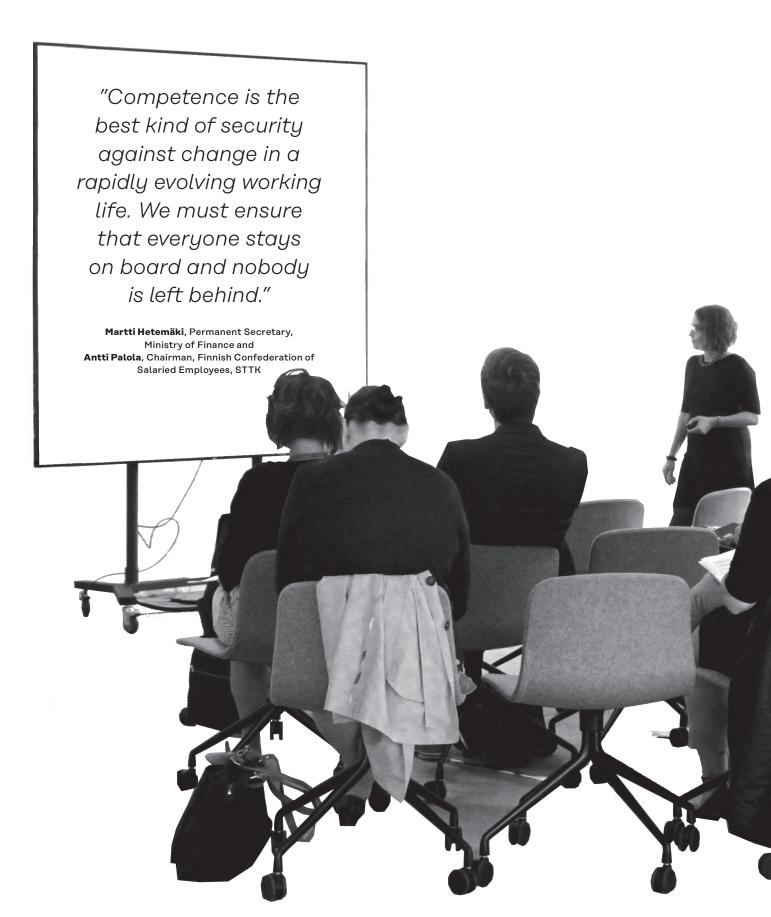
Shared rules are created for the identification and recognition of competence acquired in various ways.

To meet the new needs of working life, competence modules are created that allow the identification and acknowledgment of learning acquired in various ways and in different environments.

The qualifications framework must be developed or other ways created to enable the consistent identification of competence acquired outside the formal education system. The importance of work and hobbies as places of learning will be vital in the future. The competence building of

employers and employees, work communities and other communities must be supported. Short-term demand must be responded to with increasingly diverse joint implementations. Competence must be produced together in networks and ecosystems.

New ways of producing competence together include different badges awarded for competence or competence produced by instruction or activities in organisations and recognising this competence in working life.



4.

FINLAND'S SUCCESS IS BASED ON COMPETENCE

A high level of competence enables increased work productivity and can lead to a high employment rate.

This way, the funding of the welfare society and Finland's competitiveness can be ensured. The high level of competence makes Finland internationally attractive and secures a sufficient number of competent people in Finland.

Our goal is a Finland that has the resources and the competence required to respond to future challenges. The well-being of Finnish people has been built upon work, equality and education. The importance of participation, general knowledge and the competence of the whole population is becoming even more important in a world that is becoming more and more complex. Future well-being, a well-functioning democracy and a sustainable economy are also based on these values. Everyone's input is important.

The following points outline the goals and desires that we are striving for.



Finland increases the competence level of the whole population – individuals and organisations.

Technological development and the transformation of work require us to increase the education and competence levels of the whole population. Being successful in a competence-intensive economy requires a higher level of competence. As society becomes increasingly reliant on technology, the basic skills of the senior population also need constant updating. Finland must

therefore aim to be among the countries with the largest proportion of people with higher education and the highest quality of competence. To make this possible and to raise the competence level within organisations, the operating culture and operating practices must also be reformed, and old practices must be abolished.



Finland implements a broad, long-term, lifelong learning policy that combines different policy sectors.

To succeed, lifelong learning requires many policy sectors to be developed in a similar direction at the same time. The objectives of education and labour policies, social security, taxation, and art, culture, sport, science, information, health, and industrial and innovation policies must be determined

jointly, and they must be developed from a strategic point of view. Information on the needs, preconditions and effects of learning and education must be produced to serve as a basis for these policies. In addition, indicators must be defined for monitoring how learning is realised and how successful it is.



Finland must ensure there is sufficient competence and a sufficient number of competent people.

The high level of competence and an ability to reform makes Finland an internationally attractive country and careers in Finland are sustainable.

The objective is that people, companies and investors will want to operate in Finland because of its competent workforce and its sustainable, predictable operating and living environment. Long careers and the ability to work are based on a continuous updating of competence. We must therefore ensure that everyone has the basic skills and that

everyone's competence is supplemented. Sufficient competence must be ensured, for example, through a sustainable family and immigration policy and by enabling longer and sustainable careers. A financial safety net and a culture that values learning and diversity encourage everyone to adapt and have the courage to try different things. A high level of competence enables high-quality research, development and innovation activities.



People's well-being and opportunities to participate in working life are taken care of. This is how the foundation for a sustainable economy is safeguarded.

Learners' income must be secured, and their basic needs must be met. The well-being of learners and their functional capacity are a precondition for learning. Well-being makes possible a high level of participation in working life and other activities that provide societal value. Competence building and the

use of competence enhance participation and well-being. We want everyone to have real and equal opportunities to use their competence. Education and guidance must be provided actively to reduce the segregation limiting the choices people have related to studies and working life.

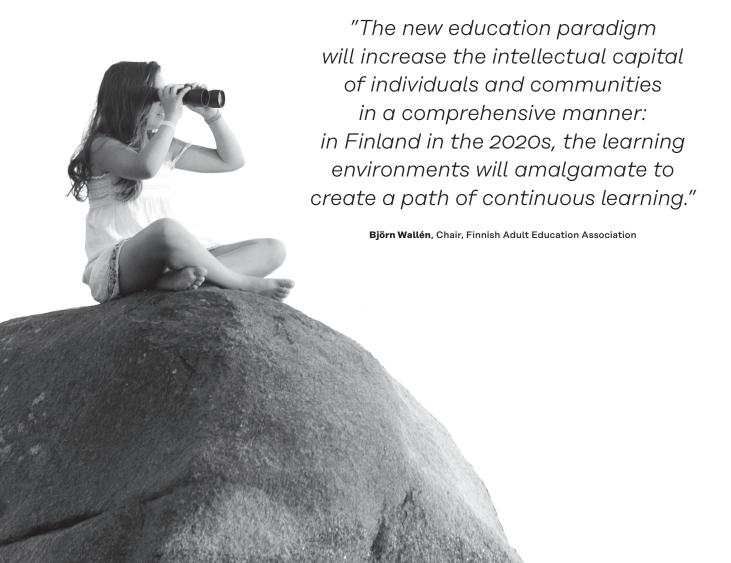


The shared national intellectual capital is visible.

We aim at providing an up-to-date and comprehensive snapshot of the national intellectual capital. This snapshot can be used to develop services, steer activities and target policy measures. An overall picture of the

national intellectual capital is needed to better match education and working life. The more accurate the data on competence is, the easier it is to match experts with jobs or learners with places for education and training. "Finnish trade and industry must aim to be a pioneer within the areas of its choice in the global economy. It requires the kind of competence and agility that others do not have. Our strengths include an unwavering confidence in education, research and innovation, and the tradition of co-operation between different companies and the public sector. Finland will succeed with competence."

Jyri Häkämies, Director General, Confederation of Finnish Industries, EK



5. Challenges: why is it so difficult to make changes?

The shared view in current discussions is that lifelong learning is a natural part of a person's whole life, but its role and purpose may vary depending on the situation.

In the future, we will see the importance of improving or updating competence, the modes of learning become more diversified and the pace of societal change accelerate. Alongside these changes, we need to re-examine the opportunities and obligations of all parties to participate in the promotion of lifelong learning in different situations.

The complexity of the changes in our operating environment is reflected in the discussion about how responsibility could be shared in each situation and what would be a justified way of sharing it. As there are various possible solutions depending on the point of view, the question may pose a difficult challenge to overcome with a view to the progress of change.

This chapter highlights some key challenges related to the implementation of the shared aim and funding principles. Each challenge is illustrated with the help of a question and two caricatured responses – viewpoints heard in both public discussion and expert statements.

The challenges were identified by the co-ordination group, and Sitra's working group linked them to an economic theory framework. The individual views do not represent the group's opinions.

Based on the joint discussion about the challenges associated with change, the co-ordination group identified the points concerning the funding of lifelong learning on which the 30 societal actors have a shared view. These views on funding principles formulated by the co-ordination group are presented in Chapter 6.

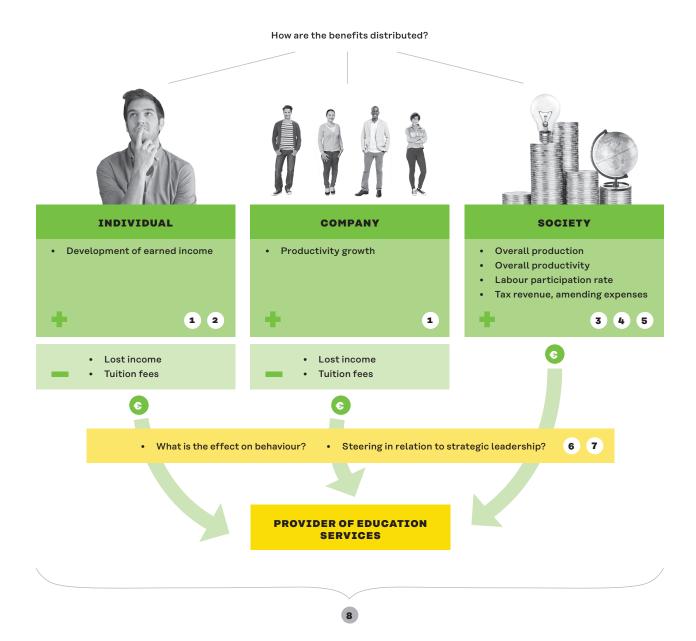
Investments in lifelong learning are investments in human capital: the costs associated with them produce benefits that the payer will reap over an extended period of time. It is a complicated task to assess the costs and benefits, because they must be evaluated from many different perspectives at the same time. It is particularly difficult to prove causal connections between benefits accumulated in the long term and competence building that took place at a particular point in time. Therefore, in the discussion related to the funding of lifelong learning there are different, even conflicting, views, each of which can be justified by interpretations found in research literature.

In the following, we present a simplified framework based on economics¹ (Figure 4) to illustrate the challenges of competence building related to lifelong learning during a working career. The framework shows not only how the different issues are linked together, but also how there are also other aspects related to them than just those arising from economics. The examination sheds some light on why it is so difficult to find unambiguous limits or rules for who reaps the benefits from competence building and who therefore should bear the responsibility for the costs.

From the viewpoint of an individual and company, the profitability of an investment made in competence building depends on whether the individual's projected income or the company's expected productivity growth exceeds the expenses of competence building. The expenses consist of the direct costs of

¹ Hyytinen & Rouvinen (2005), Barro & Lee (2010), Woessmann (2016), Hulten (2017), Kauhanen (2018)

FIGURE 4. CHALLENGES IN AN ECONOMIC THEORY FRAMEWORK



- **1.** Who bears the responsibility for ensuring that people's competence does not become outdated during their careers?
- 2. Should everyone have the opportunity and obligation to develop their competence regardless of the type of benefit?
- **3.** Is the shared money allocated in the right way regarding the competence building of adults?
- 4. Can we afford to exclude some people from working life or competence building?
- **5.** If more money is needed for lifelong learning, where do we source it from?
- **6.** What share of the public funds allocated to the competence building of the working-age population should be provided directly to individuals?
- **7.** Should we discuss charging fees for education?
- **8.** How can we manage lifelong learning as a cross-cutting phenomenon

In the figure above, the challenges have been placed in an overall framework illustrating the whole field of issues related to the funding of lifelong learning. The objective is to figure out the connections between the key economic factors described in the text.

The numbered headlines describe the challenges brought up in the discussion. However, in the text each of the challenges is described in closer

The numbered headlines describe the challenges brought up in the discussion. However, in the text each of the challenges is described in closer detail and reflected against information provided by research literature on economics.

competence building and the lost income that the individual or the company could have earned if the same time was used for productive activities with an immediate impact.

The general observation is that for an individual higher education provides a higher income level.²

Companies achieve higher productivity through building the competence of their employees. They are capable of producing more and higher-quality products or services with the same input as before. In a market economy, companies with an above-average productivity level succeed, whereas companies with a below-average productivity level die off. This creative destruction changes the structure of the national economy.

As investment in the national economy, education is a long-term investment; it yields benefits over a very long period of time. In public debate, the education and labour market functions of lifelong learning are sometimes pitted against one another. Some people think that constant improvement of the level of general education has value in itself, while others emphasise the nature of education as an investment that a person "pays back" by participating in the labour market. When seen in the latter way, the returns gained by society on education are determined on the basis of the payback time of investment or how many working years - time as net taxpayer - a person has ahead of him or her after completing specific education or training.

Based on the payback time alone, education given to adults yields a lower return on investment than education of young people, even though education can be considered to have other positive impacts on the general quality of life and well-being, for instance. The benefits even accumulate from one generation to the next if the inheritance of education careers is taken into account.³

In the economics of education, the prevailing consensus is that education

produces benefits through externalities that are difficult to assess. Based on extensive international empirical research literature, the impacts of increased investments in education are at least as high and probably even higher at the level of the national economy than at the level of individuals. This derives specifically from the externalities: a rise in the average level of education produces externalities that benefit the whole of society. The benefits reaped by society vary according to the level of education to which the investments are increased. At lower levels of education, the benefits are generated primarily in the form of a reduced reliance of the population on the social welfare system and a lower criminal rate. At higher levels of education, on the other hand, the benefits would seem to manifest themselves in the form of technological development and productivity growth. In addition, a higher education level correlates with better health and longer life expectancy4, even though the causality between them is difficult to prove.

Some benefits of competence and education probably escape even the most advanced calculations.

From the viewpoint of society, the positive externalities of education are a growth in overall production, overall productivity and the employment rate. Overall production increases when the average production rate calculated per each employed person generated by each additional year of education increases.

The growth of overall productivity is related to technological development: the use of technology and innovations utilising new technologies boost economic growth. The employment rate improves when the increase in the level of education increases the labour participation rate.

All in all, empirical research has shown that, in the long term, education is an essential source of economic growth.

² Valletta (2016), Hulten (2017), OECD (2018b), Suhonen and Jokinen (2018).

³ Myrskylä (2009).

⁴ Heckman et al. (2017), Roche (2017a, b).

5.1. Who bears the responsibility for ensuring that people's competence does not become outdated during their careers?

Perspective 1: Everyone must take care of building one's own competence.

Perspective 2: Employers must take care of the competence building of their employees.

The increased estimates of the need for systematic retraining⁵ have led to a situation in which the costs of competence building must be discussed. For adults, workplaces are the most important learning environments, but those outside working life do not have the chance to participate in this kind of competence building.

Society bears the main responsibility for the costs of competence building when people lack sufficient competence for finding employment in the labour market, but who is responsible for ensuring that everyone's competence is built sufficiently during their working career? The organisation's strategy, field of operation and several other factors have an influence on how much each workplace is investing in competence building. The forms of competence building funded by employers partly or in full vary a lot, and they are often inseparably integrated into the actual performance of work.6 There are also major variations in how the onthe-job competence building is documented or validated.

The mutually agreed methods by which the competence and work ability of the workforce have been taken care of have varied over time. The occupational health and safety system was established under the circumstances of industrialisation to ensure that people can maintain their work ability in the service of an employer. As the nature of work is changing, the risks to the ability to work that need to be managed include not only the risks associated with the physical and psychological ability to work but also the risks associated with competence becoming outdated. Should all organisations bear joint responsibility for the competence building of the entire workforce to ensure that there is up-to-date competence available at all times? This viewpoint is a challenge particularly to small and medium-sized enterprises (SMEs) in terms of resources and competence. Furthermore, freelancers and people acquiring their income in different ways from one or more sources do not have a learning community supporting their competence building.

⁵ Asplund and Kauhanen (2018), Ministry of Economic Affairs and Employment (2018).

⁶ Seppänen (2018)

Roughly speaking, the costs are divided between individuals and employer organisations. However, there is some redistribution of costs through taxation and employee and employer contributions, for example, as part of the provision of education staff and social-political decision-making.

Since it is difficult to show how the benefits of competence building are divided in exact terms, it is also impossible to clearly allocate in what proportion the costs should be divided. It is known that competence closely linked to performance of work usually benefits the employer, in which case it is justified that the employer pays the costs. Correspondingly, general competence may be available to any employer, in which case it is considered that most of the benefit is gained by an individual – and hence he or she should also bear the burden of costs.

There are also many other factors determining to what extent the employer or individual benefits, including to what extent the gains in profitability made by the employer are transferred to the individual as higher wages, how mobile the workforce is or how complete the information available on people's competence is.

For an organisation, good competence-building practices may be important with a view to maintaining an attractive employer image, even if this makes it possible for competitors to hire competent employees. Respectively, an individual may appreciate the positive psychological effects produced by learning more than professional development, and this benefits the employer as well. Furthermore, the different areas of competence cannot be isolated from one another: becoming better in one area of competence supports the development of human abilities in a wider sense as well.⁸

⁷ Kangasniemi (2013).

⁸ Kilpi-Jakonen et al. (2015), Woessmann (2016).

5.2. Should everyone have the opportunity and obligation to develop their competence regardless of the type of benefit?

Perspective 1: No, because during unemployment priority should be given to active job-seeking. Unemployment benefit is a salary paid for seeking employment.

Perspective 2: Yes, because it must be possible to use the period of unemployment for goal-oriented competence building and for increasing one's personal labour market value. It is possible to prioritise competence building instead of job-seeking.

It is increasingly likely that in the future people's careers will include different phases, maybe even different ways of working and involving breaks from work as well. Income may accrue from various sources. When reforming the social security system, it may be necessary to draw up certain policies with indirect impacts on competence building, particularly as regards unemployment security. The underlying thought behind employment policy measures is usually a shared understanding of the kind of obligations and entitlements an individual should meet when employed or unemployed. There is a continuous public debate about the rights and obligations of the unemployed. Consequently, the opportunities to pursue independent studies, for example, have been expanded in recent years.

As regards the effectiveness of labour market measures, it is known that they lose efficacy when the duration of unemployment period becomes lengthened. In such a case, from the viewpoint of efficient allocation of public funding, it would be essential to shorten the unemployment periods or, preferably, to

prevent them from beginning in the first place. We know that the total number of months of unemployment is substantially smaller for the highly educated than for those with a lower education. ¹⁰ Should we, therefore, invest more in competence building during employment?

With a view to future reforms, the essential questions include the following. How will competence building aimed at promoting employment be defined and by whom? What are the forms of social security for which such competence building can be required as part of work, for example? There are varying interpretations of the kinds of life situations in which competence building should be an individual's right and in which situations it should be an obligation.

In addition to unemployment security, there are also other forms of social security, such as housing allowance and parental allowances, that can constitute obstacles to or incentives for competence building, depending on the situation. The impacts of these benefits on the preconditions for lifelong learning must also be carefully assessed in future reforms.

⁹ Alasalmi et al. (2019), National Audit Office of Finland (2019)

¹⁰ Asplund et al. (2015).

5.3. Is the shared money allocated in the right way for building the competence of adults?

Perspective 1: Yes, adult education is a sensible investment, even though its returns are difficult to verify.

Perspective 2: No, common funds should only be invested in the kind of competence building for which financial returns can be proven.

Working life is changing at a rapid pace, and it is obvious that during a working career lasting 40 or 50 years competence needs to be strengthened. When considering the question of educating the working adult population with public funding, other factors besides the remaining payback time of the investment for taxpayers must also be taken into account.

By adulthood, people may already have acquired a degree, a qualification or other education, they probably have work experience and have acquired the associated competence, they may have already accumulated some earned income, or they may have several forms of livelihood. Because of the differences in individual life paths, there is a very limited amount of research information available on the effectiveness of adult education¹¹, which

makes it difficult to assess the profitability of investments made in adult education. However, it is known that provision of public support for competence building during a working career is often ineffective¹², and participation in adult education is more active in countries with a highly educated population.¹³

A typical feature of adult education is that the people most actively seeking to build their competence are the ones who have already completed long basic education. ¹⁴ The same observation has been made about the group of people using the adult education allowance. In adult age, competence building tends to accumulate for the highly educated, whereas those with a lower education – particularly those working on simple tasks – or elderly people are at a threat of being marginalised when it comes to competence building. ¹⁵

¹¹ Knipprath and De Rick (2015), Karhunen (2018).

¹² Woessman (2016).

¹³ Blossfeld et al. (2014).

¹⁴ Manninen (2018), Statistics Finland (2018).

¹⁵ Kilpi-Jakonen et al. (2015), Silvennoinen and Nori (2017), Martin (2018).

Different funding solutions used in adult education also generate different distributions among those participating in the education provided. Tax deductions are typically used by the highly educated, whereas, at least in Switzerland, it has been noticed that education vouchers have also activated people who have not previously participated in adult education.¹⁶

Economic theory prompts the question of whether public incentives should replace private investments in education. It is claimed that good incentives lead to people in good positions seizing education places from those in a weaker position, even though they have the opportunity to acquire equivalent education from the private market. If this is the case, expanding or improving the current incentives for adult education would probably increase rather than reduce the differences in competence between population groups.¹⁷ On the other hand, it has been observed that people with a lower education use more the formal education offered by the education system, whereas more highly educated people learn things primarily in non-formal education arranged by employers. However, the provision of publicly funded adult education does not in itself guarantee the participation of those in a weaker position in a sufficient enough way to reduce social inequality.¹⁸

Hardly any countries have succeeded in reducing social inequality by means of adult education. When considering economic viewpoints, it is important to observe that the motivation of adults to build their competence is also affected by many non-monetary factors, such as experience of how much supervisors and management encourage competence building, the opportunity to use competence in one's work tasks and to advance one's career, or how much competence building is valued in the social networks outside the work community. 20

Often, when estimating the societal returns of the competence building of the highly educated, the emphasis tends to be on the micro level, or the ability of organisations and different ecosystems to innovate, deploy and disseminate operating models enabled by new technologies. This is essential with a view to transforming competence into national economic growth and social well-being. Because higher education is a sector with strong international growth²², Finland must also take care of the global competitiveness of high-level competence.

¹⁶ Oosi et al. (2019).

¹⁷ Karhunen (2018).

¹⁸ Blossfeld et al. (2014).

¹⁹ Kilpi-Jakonen et al. (2015).

²⁰ Knipprath and De Rick (2015), Draper et al. (2016), Silvennoinen and Nori (2017).

²¹ Hyytinen and Rouvinen (2005), Maliranta (2014).

²² OECD (2018c).

5.4. Can we afford to exclude some people from participation in society, competence building or working life?

Perspective 1: No, everyone must have an opportunity to participate actively in society. When people lack competence, it must be developed to ensure sustainable employment and participation.

Perspective 2: Yes, we can content ourselves with the fact that not all people have the opportunity to participate in productive work and not everyone's competence will develop.

The sustainability challenges caused by the limits on public finances and the ageing of the population create pressure to enhance employment rates and work productivity.²³ However, rapid technological development and the globalisation of work are eliminating the kind of work tasks that have typically provided employment for low-skilled people.24 For this reason, the threshold for marketbased employment rises, and (re)employment requires higher competence than before. When there is a highly educated workforce widely available, the polarisation of the development of tasks accelerates. A skilled workforce accelerates technological development, which, for its part, accelerates an increase in the proportion of jobs requiring high-level competence and, correspondingly, reduces the share of jobs with lowercompetence requirements. In most cases, it is impossible for an individual to transfer directly from performing a decreasing number of routine-type tasks and physical tasks

requiring a low level of competence to tasks with higher competence requirements.²⁵

In addition to educational background, there is another underlying factor explaining the transfers of individuals as professional structures change: the majority of those who suffer redundancy are ageing employees. At the same time, political decisions are being made to lengthen working careers by making them both begin earlier and end later. Vocational education has turned out to be the most effective way of enhancing the employment prospects of older job-seekers. If we succeed in keeping most Finnish people in productive work for longer than has been the case in the past, this will also mean a growing need for competence building.

Other challenges include the involuntary gap years of young people applying to education, the underuse of the competence of immigrants, and the disruptions to working careers, for one reason or another, when an individual's work ability could still be improved.

²³ Kivistö (2018), Ministry of Finance (2018).

²⁴ Obstbaum and Vanhala (2016), OECD (2017), Asplund and Kauhanen (2018),

Ministry of Economic Affairs and Employment (2018).

²⁵ Maczulskij and Kauhanen (2016), Asplund and Kauhanen (2018).

²⁶ Asplund et al. (2015).

²⁷ Alasalmi et al. (2019).

5.5. If more money is needed for lifelong learning, where do we source it from?

Perspective 1: Because of the sustainability gap, in the future there will be even less money available for lifelong learning than today. Therefore, additional funds need to come primarily from the private sector or public funds must be reallocated within the budget by political decisions.

Perspective 2: Public funding for lifelong learning must be increased, even if it means increasing the national debt.

The public debt, or the state and municipal debt, has doubled since the financial crisis of 2008 and currently stands at 60 per cent of GDP. The ageing population means increasing care expenditure, so the debt level will inevitably keep increasing. According to a Ministry of Finance forecast, the debt ratio will reach 90 per cent in 2040.

Increasing care expenses cannot be financed by raising taxes, because the tax increases would have to be so big that economic activity would decline. Strong economic growth, on the other hand, would make the situation easier, because tax revenues would increase even if the tax rates were kept at the present level. However, over the next few years the economic growth is predicted to remain slow both in Finland and globally.²⁸ Finland's economic growth is further slowed down by a decrease in the size of the working-age population.²⁹

Since raising the competence level could provide the economic growth that is lacking, investments in lifelong competence building would be justified. Extensive international research literature has shown that increased investments in education have at least as high and probably an even higher impact at the level of the whole national economy than at the level of individuals. This derives from the fact that a rise in the average level of education produces externalities that benefit the whole of society.³⁰

Therefore, we could justifiably assume that it would be worthwhile to invest in lifelong learning, even if it led to debt, if the productivity growth generated by competence brought economic benefits that exceeded the interest costs. The interest rate level has been historically low for a long time and is expected to remain low, so with this in mind it would appear to be an attractive

²⁸ Kotilainen (2015), Pohjola (2017).

²⁹ OECD (2018a), Ministry of Finance (2018), IMF (2019).

³⁰ Barro and Lee (2010), Woessmann (2016).

alternative. However, we should note that public debt is an entity – a loan is not taken in order to cover a specific expense item in the budget, but to cover the deficit of the budget as a whole. Discussion about national debt is linked to the government's decision on the budgetary framework for the government term and the parliament's decisions on the annual state budget.³¹

As a eurozone country, Finland is also committed to complying with the Maastricht Treaty, which defines certain framework conditions for EU member states belonging to or joining the Economic and Monetary Union: annual government deficits must not exceed three per cent of GDP and the public debt must not exceed 60 per cent of GDP.³²

Economists have differing views regarding the extent of government debt.³³ In certain countries, the national debt may have exceeded 100 per cent for extended periods without it having any serious effects on the economy. In other cases, though, indebtedness has rapidly led to a serious crisis. So, as a single figure, the debt ratio itself does not reveal enough, but it must always be assessed as part of the overall situation, taking account of the background history of running into debt and the future prospects.

Causal connections between different factors may be difficult to prove in any unambiguous manner, and the future can only be forecast. Economic forecasts are always based on chosen assumptions on different variables and connections between them. It is typical that the background assumptions between different forecasts differ from one another to a certain extent. Therefore, differing views may be presented in a discussion about whether a finance policy increasing debt or limiting the amount of debt is a good or a bad choice for a specific state in a certain situation.

³¹ VNp (2003), Economic Policy Council (2018).

³² EC (1999).

³³ Ranki (1996), Haaparanta et al. (2019).

5.6. What share of the public funds allocated to the competence building of the working-age population should be provided directly to individuals?

Perspective 1: All of it. In continuing education and adult education, public funding should follow the learner.

Perspective 2: In the future, a small share of it. In continuing education, account and voucher models should be tested. Some of the funding should be channelled directly or indirectly to education providers.

Different countries apply different funding solutions to the acquisition and provision of continuing education. These solutions affect the targeting of adult education by creating different incentives for acquiring education. For example, France uses personal competence accounts; the money accrued on the account enables competence building regardless of the duration of one's employment relationship. Singapore, on the other hand, compensates for tuition fees by providing education vouchers that can be used for updating digital skills, for instance. When public funds are provided directly to an individual, this may have impacts on the opportunities of the selfemployed, freelancers and people acquiring their income in various ways to keep their competence up to date.

Whether the funding is allocated directly to an educational institution or an individual has an impact on the provision of education and, through demand, on the education market.³⁴ Education providers offering education leading to a qualification or degree

are expected to develop versatile competence-building products and services with strong synergies with the education they provide.³⁵ In the management of educational institutions, business competence and strategic ability are critical. Society, on the other hand, needs to assess what kind of steering offers ideal support and the freedom to act to ensure that the funding partly channelled through the learner produces the kind of rise in the efficiency of operations and the level of competence that is desired.

By combining various steering measures, it is possible to create different incentives for acquiring and producing competence. For example, the right to deduct education expenses from taxation is mainly used by those who are already taking advantage of a wide variety of learning services. On the other hand, education account and voucher models would seem to better target those with a low level of education and people who have not participated in adult education before.³⁶

 $^{^{\}rm 34}$ Kosonen and Miettinen (2019).

³⁵ EUA (2018).

³⁶ Oosi et al. (2019).

5.7. Should we discuss charging fees for education?

Perspective 1: No, because publicly funded education leading to a qualification or degree should always be free of charge to the student.

Perspective 2: Yes, because public funding will not necessarily suffice, and it should be possible to collect fees for education leading to a qualification or degree provided by publicly funded education institutions.

For the most part in Finland, education leading to a qualification or degree is free of charge for the student. At the same time, a large share of those applying to study for a first qualification or degree do not get selected, and the start of their studies is delayed. An efficiently functioning student selection system would enable young people to commence their studies earlier than at present and they would thus be able to transfer to the labour market earlier than they do today.³⁷

Education leading to a qualification or degree is in fact also used as continuing education for adults. This may not be practical in every situation, even though it may be necessary for meeting the qualification requirements of a specific profession. However, if the need for retraining still continues to grow, we must decide whether society can afford to offer several qualifications to an increasingly large number of citizens free of charge.

The discussion about costs falls short if we do not examine the returns of education at the same time. This also opens the discussion about the content and quality of education. Vocational education produces working life-oriented competence that helps people transfer directly from education to working life.³⁸ For the same reason, the readiness of those who have completed vocationally oriented education to build and update competence may in certain respects remain weaker than that of those who have chosen general education.³⁹

Ultimately, people's personal competence has been observed to be of even greater importance than official qualifications: with a lower qualification or degree combined with higher competence it is possible to reach a higher income level than with a higher qualification or degree combined with lower competence.⁴⁰

³⁷ Pekkarinen and Sarvimäki (2016).

³⁸ Malamud (2010).

³⁹ Woessman 2016), Lavrijsen and Nicaise (2017).

⁴⁰ Woessman (2016), Martin (2018).

5.8. How can we manage lifelong learning as a cross-cutting phenomenon?

Perspective 1: The public administration will gradually transfer from a sector-based model to a phenomenon-based administration. In legislative work, the impacts of decisions on jointly defined phenomena, such as lifelong learning, are taken into account.

Perspective 2: Measures from different administrative sectors are implemented in a co-ordinated manner so as to promote lifelong learning.

Phenomenon-based thinking refers to the kind of mindset where phenomena are used as a way of interpreting and framing issues that need to be solved by society and that can be influenced by measures taken by the public sector. Phenomena such as increasing inequality, social exclusion or the need for lifelong learning arise from global megatrends. They spread across or between the boundaries of traditional administrative sectors, so goal-oriented co-operation is needed between administrative and sectoral boundaries to understand the snapshot of the situation and prevent or solve the relevant issues.

The phenomenon-based approach is a way of interpreting matters as part of a larger

system and entity instead of seeing them as individual, separate parts. It challenges us to examine the cause-and-effect relationships in a systematic manner and from various perspectives.

In adulthood, different combinations of studying, earned or entrepreneurial income and social security connected with varying family situations create a large number of different situation-dependent incentives or obstacles. If we want to manage phenomena, we need to be able to define and produce such incentives.

For example, Sitra and the Ministry of Finance have developed different options for managing phenomena.⁴¹

⁴¹ Sitra (2018), Ministry of Finance (2019).

6. Funding principles

Lifelong learning is managed as a cross-cutting phenomenon.

The aim for lifelong learning outlines that Finland should implement a broad, long-term lifelong learning policy that includes all policy areas. The world for which competence is produced and where it is to be used is changing at an accelerating pace, and it is becoming increasingly complicated and difficult to predict. All operating models and solutions used in lifelong learning must be managed as parts

of the same entity in such a manner that they interact with each other. What is needed is a new kind of systemic management model.

The funding principles indicate the direction to be taken for the systemic management of lifelong learning. They describe our shared view of how we can best support the implementation of the aim for lifelong learning.

Principle 1: Management of the public resources of lifelong learning

A substantial amount of public and private funds are being used annually for competence building. Principle 1 concerns the use of public resources, or, in practice, the resources of the state and local authorities. It covers the competence building taking place over an individual's whole life cycle.

Principle 2–4: Working-age population

Learning-to-learn skills are the basic precondition for sustainable employment, professional development and inclusion. Their meaning will become increasingly important in the future. We cannot leave the competence building of the working-age population up to individuals and employers only. We need functional structures which will help us ensure continuous development of competence in all target groups. In terms of content, all new structures should be as flexible as possible and respond to changing needs.

Principle 5: Productivity

Competence accrues society's intellectual capital through research, development, and activities aimed at generating knowledge in general. Economic growth derives from the productivity of work enhanced by new knowledge and competence. The maintenance of growth requires new investments in research, development and innovation, or exploitation and dissemination of information in a new manner.

6.1. Decisions concerning competence building and the development of working life must be based on a policy of lifelong learning that spans all administrative sectors

According to the aim for lifelong learning, Finland implements a broad, long-term lifelong learning policy that includes all policy areas. The funding for lifelong learning must be examined as a continuum that includes various events along an individual's life cycle. The decision-making system needs to be intentionally developed in a direction that promotes lifelong learning, as part of a management system that supports the jointly developed aim.



The entity of lifelong learning is managed based on a shared snapshot of the situation. The effectiveness of operations is assessed according to predetermined criteria. This way funding can be targeted in a long-term manner and with increased efficiency. It is also possible to react to unpredictable changes in working life, taking account of the consequences to emerge at different time spans. Different funding channels and ways of combining them are identified.



When preparing reforms and legislation, attention is paid to the broad assessment of the impacts and effectiveness of lifelong learning. When preparing reforms in any administrative sector, their impacts on a broader scale must be taken into account, also from the perspective of competence building.



Learning of basic skills and their maintenance shall be ensured throughout life.



Services promoting employment encourage people to build their competence to increase their employment capacity and employability.

 $To \ further \ develop \ Principle \ 1, \ in-depth \ discussions \ are \ needed \ on \ the \ viewpoints \ addressed \ under \ the \ following \ challenges:$

^{5.} If more money is needed for lifelong learning, where do we source it from? 7. Should we discuss charging fees for education?

^{8.} How can we manage lifelong learning as a cross-cutting phenomenon?

6.2. Funding enables raising the competence level to boost the potential of the whole working-age population

The aim for lifelong learning outlines that continuous competence building is genuinely possible for everyone. To implement this, there must be enough funding to enable the improvement and building of the competence of the whole working-age population. Special attention needs to be paid to people whose working career is at a risk of being disrupted.



The financing model enables the provision of good basic skills for everyone and services tailored to the different needs of individuals that provide comprehensive solutions ensuring better employability to individuals.



Education financed from public funding provided throughout a working career must be directed more to those whose capacities to find employment are weak or whose careers are at a risk of being disrupted. If funding is targeted at work communities, the emphasis should be on communities with the weakest resources for competence building.



When reforming income-related benefits, attention must be paid to ensuring that the benefits encourage people to build their competence.

To specify Principle 2, answers to the following questions are needed. 1. Who bears the responsibility for ensuring that people's competence does not become outdated during their careers? 2. Should everyone have the opportunity and obligation to develop their competence regardless of the type of benefit? 3. Is the shared money allocated in the right way for building the competence of adults? 4. Can we afford to exclude some people from participation in society, competence building or working life?

6.3. Funding and steering enable the promotion of sustainable working careers by strengthening the competence of individuals

The aim for lifelong learning demands that people's well-being and opportunities to participate in working life are taken care of in order to secure the foundations of a sustainable economy. Participation in working life helps strengthen an individual's competence, because new competence is increasingly often generated during employment. To ensure the implementation of the aim when targeting funding, the prerequisites of the continuity of working careers must be examined.



Integrated, multi-channel support and guidance services will be developed in collaboration by various bodies to enable smooth transitions. The emphasis should be on the importance of individual competence building as part of the enhancement of work ability and employability.



Legislation supports the equal opportunities of individuals to build their competence regardless of their educational background, taking advantage of the different forms of training and education in a manner that suits their purposes.



Educational institutions are encouraged to increase the provision of a new kind of education that better meets the needs of the working-age population and working life. This is taken into account in the educational institutions' funding.

When continuing the work on Principle 3, it is necessary to further the joint discussion on the viewpoints addressed above under the following challenges: 2. Should everyone have the opportunity and obligation to develop their competence regardless of the type of benefit? 3. Is the shared money allocated in the right way for building the competence of adults? 4. Can we afford to exclude some people from participation in society, competence building or working life? and 6. What share of the public funds allocated to the competence building of the working-age population should be provided directly to individuals?

6.4. Supporting the development of organisations to become learning communities

The aim for lifelong learning dictates that Finland increases the competence level of the whole population and every kind of organisation to ensure the productivity of work, a high employment rate and funding of the welfare society. Implementing the aim requires that organisations have incentives identifying their different starting points and resources, and opportunities and obligations to build the competence of individuals and work communities with a view to strengthening the organisation's own and society's competitiveness in a comprehensive manner.



Investment in intellectual capital is made visible in the form of financial investments. Existing learning communities are identified, and their number is increased by encouraging organisations to actively build their intellectual capital.



Incentives are created for workplaces to build the competence of their personnel, particularly of those employees who are at risk of discontinuing their working careers. Entrepreneurs are encouraged to build their own competence, and genuine opportunities are created for that.



Prerequisites and incentives are created for mutual co-operation between working life organisations, and collaboration between educational institutions and providers of other learning services and developers of learning technologies. Methods are created for small companies and individuals to enhance their prerequisites for competence building when an individual is acquiring his or her income from one or more sources in various manners.

To further specify Principle 4, it is necessary to continue discussion and answer the following questions. 1. Who bears the responsibility for ensuring that people's competence does not become outdated during their careers? and 6. What share of the public funds allocated to the competence building of the working-age population should be provided directly to individuals?

6.5. Strengthening of education, research and innovation boosts the national economy's sustainable growth

The aim for lifelong learning provides for Finland's success being based on high-level competence that enables the growth of work productivity and Finland's competitiveness. To ensure the implementation of the aim, it must be possible to enhance the dissemination and utilisation of competence by means of steering and funding, and through active innovation. This way competence best improves overall productivity and creates economic growth to ensure the funding of the welfare society.



Conditions are identified in which ecosystems generating knowledge and competence can emerge in different operating environments and their emergence is encouraged. The development of the existing ecosystems into ecosystems that create economic growth will be strengthened.



The objective is to enhance the use of resources intended for innovation activities and enhance their productivity. Support is provided for the openness and international networking of regional or sector-specific profiled ecosystems. The operating principle is to encourage collaboration between various fields across sectoral boundaries.



Measures and competence that accelerate the deployment and wide dissemination of new technologies in society, and in working and business life in particular, are strengthened. Openness of data and flow of information are secured by creating conditions and platforms that enable the efficient use of data.



It must be ensured that Finland remains a stable and predictable operating environment for companies. We have competence, competent employees and flexible co-operation opportunities, and we develop co-operation with a corporate perspective in mind.

Principle 5 reminds us how important it is to make use of competence to ensure that actions in accordance with Principles 1 to 4 for boosting lifelong learning are most effectively turned into sustainable economic growth. Innovation activity channels competence into overall productivity growth and, consequently, economic growth.

7. How was the shared view of 30 societal actors generated?

The objective of Sitra's Lifelong learning focus area (2018–2021) is to accelerate Finland's move towards implementing the kind of lifelong learning policy where competence is seen as a building material for well-being and competitiveness. It is tasked with providing support to societal actors with a view to updating the policy and the operating models for lifelong learning.

As part of this project, in autumn 2018 Sitra invited 30 organisations representing employment, education and central government to take part in a joint process. All 30 organisations accepted the invitation, and a follow-up group was set up comprising senior management. The members of the follow-up group appointed representatives of their own organisations to a co-ordination group, which was tasked with working out a shared aim. The results of the first phase of their work are included in this publication.

Background

As part of the preparation of the Lifelong learning focus area, in spring 2018 Sitra carried out a round of interviews from which it collected views on the challenges and development needs related to lifelong learning from more than 40 stakeholders.

The challenges mentioned included the lack of a national objective, the targeting of funding, problem areas in the education system and the competence building taking place in working life.

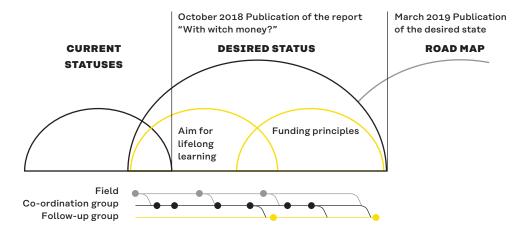
By contrast, the stakeholders saw lifelong learning as a major opportunity: if a reform was successfully implemented, there would be less need for remedying measures.

Based on the interviews, it turned out that Finland has already done a lot of work on the development of lifelong learning. However, those interviewed saw a need for an organisation or body that could transcend the existing silos and organisational boundaries and support the overall reform of lifelong learning and its funding. A summary of the current work - the national-level working groups, visions and action plans - related to the theme was also drawn up as part of the preparation process. Based on this work, Sitra found a natural role for itself as an independent bridge-builder that could provide an arena for national-level discussions to generate a shared understanding.

What and how?

Sitra has been supporting the creation of the aim for and funding principles of lifelong

PROGRESS OF THE WORK



"Based on this work, a view of the overall situation will open up, where a new kind of thinking will be needed at all levels. Let's take a dynamic approach to the future!"

Jaana Nuottanen, Executive Director,
Finnish Association of Adult Education Centres

learning included in this publication by facilitating discussions and providing background information on the themes.

Experts from 30 organisations participated in the events and workshops during the process. Between October 2018 and March 2019, there were 10 meetings on the subject. They were used for working on the meaning and change drivers of lifelong learning, formulating a shared national aim, mapping the challenges related to the phenomenon and creating funding principles.

The meetings used inclusive discussion and development methods, such as "fish-bowl" conversations, dialogue circles, co-creation, smaller workshops.

The content developed during the process was jointly formulated, produced and signed off by the organisations. The aim was to ensure that the voice of all participants was heard. The joint discussion was valuable because the participation and commitment of all organisations in the work was the prerequisite for defining a shared target state.

Pathway to this publication

An extensive snapshot of the aim for lifelong learning was presented to a wider audience in the "We learn throughout our lives" event held on 28 May 2018.

The co-ordination group (see page 58) met for the first time in October 2018.

The organisations' own policies on lifelong learning were examined at the meetings. They were used as a basis for searching for answers

Background studies

With what money?

A study of the money flows for lifelong learning in Finland (in Finnish) www.sitra.fi/julkaisut/ milla-rahalla/

Finding it encouraging? (Kannustaako?)

A series of blogs on the current steering impacts of funding (in Finnish) www.sitra.fi/aiheet/ osaamisen-aika/#nakokulmia

to the question of why lifelong learning is important. Based on these "why" questions, preliminary aim statements were formulated, which were also tested at the first event open to everyone at Paasitorni on 4 October 2018.

The aim statements were tested at the second major event open to everyone that was held at Sitra on 28 November 2018. The theses found their final form during January 2019, after which the follow-up group comprised of the organisations' senior management (see page 4) signed them off.

"Towards lifelong learning: The shared aim of 30 societal actors on lifelong learning" was published in February 2019. An event to mark the publication (7 February 2019) was followed online by more than 400 people interested in the subject.

After this, the co-ordination group focused its work on the challenges, or the kind of unresolved issues that currently slow down or may even hamper the implementation of the shared aim. Based on the challenges, the group outlined five funding principles that promote the implementation of the shared aim. To examine the issue, a separate advisory group on the issue of funding consisting of the co-ordination group members was set up, and it held a total of six meetings.

The challenges and funding principles that were prepared in February and March 2019 are issued for the first time as part of this publication.

Final words

Sitra took the initiative to create a shared aim for lifelong learning in autumn 2018. We invited 30 societal actors to collaborate with the aim of creating a shared future vision for lifelong learning. The vision is intended to cover the next three government terms and help Finland take steps towards making the necessary reforms.

A year ago, we at Sitra met a wide range of stakeholders and mapped out challenges and opportunities related to lifelong learning. It transpired that we lack an overall picture of the situation and an idea of the money flows, as well as a shared vision for the future of lifelong learning. It was hoped that Sitra would act as a bridge-builder and clarify the overall picture.

On this basis, Sitra launched in autumn 2018 a three-year project, "Lifelong learning – Well-being and competitiveness from lifelong learning", tasked with providing support to organisations in society with a view to building lifelong learning. As part of the creation process of this publication, Sitra's team facilitated the joint work, refined the content and organised stakeholder workshops.

We want to extend our warmest thanks to everyone involved in the work, particularly the 30 organisations and the experts nominated by them who worked intensely with us on the aim, funding principles and challenges between October 2018 and March 2019. This publication is the final result of your joint efforts!

We also thank all of you who brought your own views on the guidelines for development to the open workshops.

Read the chapter above (Chapter 7) to see how the shared views were built step by step: through the aim and vision, we proceeded towards the funding principles and challenges.

Our next move is to build a shared road map that will support the transition towards lifelong learning in Finland. You will find more information on the progress of the work and our events that are open to everyone on the Sitra website at www.sitra.fi/en/topics/lifelong-learning.

Let us all join forces and make Finland a country where everyone has an opportunity to learn! Our "Lifelong learning" work for the promotion of lifelong learning will continue until 2021.

On behalf of Sitra's "Lifelong learning" team

Helena Mustikainen

Project Director, Sitra

Members of the co-ordination group

Teija Felt, Labour Market Counsellor, Ministry of Employment and the Economy

Jani Goman, Counsellor of Evaluation at the Finnish Education Evaluation Centre (FINEEC)

Liisa Hakala, Director, Ministry of Social Affairs and Health

Antti Hallia, Specialist, University of Applied Sciences Students in Finland (SAMOK)

Kristiina Halonen, EVP, Work Ability Risk Management and Rehabilitation, Ilmarinen

Mutual Pension Insurance Company

Teemu Hassinen, CEO, Finnish Education Employers

Mikko Heinikoski, Head of Education and Employment Affairs, Central Organisation of Finnish Trade Unions (SAK)

Kirsi Heinivirta, Planning Director, Ministry of Education and Culture

Tapio Heiskari, Education policy expert, National Union of University Students in Finland (SYL)

Kati Korhonen-Yrjänheikki, Director, Working-life Services, Keva

Elina Laavi, Manager for public relations, Finnish Pension Alliance (TELA)

Timo Lankinen, Permanent State Under-Secretary, Prime Minister's Office

Veli-Matti Lamppu, CEO, Finnish Association for the Development of Vocational Education and Training (AMKE)

Merja Leinonen, Budget Counsellor, Ministry of Finance

Petri Lempinen, Rectors' Conference of Finnish Universities of Applied Sciences – Arene

Risto Lerssi, Senior Ministerial Advisor, Office for the Government as Employer (VTML)

Hannele Louhelainen, Specialist, Trade Union of Education (OAJ)

Juuso Luomala, Secretary General, Suomen Opiskelija-Allianssi – OSKU

Samuli Maxenius, Education Policy Advisor (vocational education), National Union of Vocational Students in Finland – SAKKI

Ida Mielityinen, Senior Specialist (education policy), Confederation of Unions for Professional and Managerial Staff in Finland (Akava)

Joonas Mikkilä, Head of Digital and Educational Affairs, Federation of Finnish Enterprises **Riina Nousiainen,** Senior Advisor, Education and Training, Learning and Development, Finnish Confederation of Professionals (STTK)

Jaana Nuottanen, Executive Director, Finnish Association of Adult Education Centres

Kari Nyyssölä, Head of Foresight Unit, Finnish National Agency for Education

Terhi Päivärinta, Director, Association of Finnish Local and Regional Authorities

Eeva Reponen, HR Manager, Varma Mutual Pension Insurance Company

Johanna Sipola, Director (business lobby group) / **Mauri Kotamäki,** Chief Economist, Finland Chamber of Commerce

Sirpa Sivonen, Director of Development, KT Local Government Employers

Mika Tuuliainen, Chief Policy Advisor, Confederation of Finnish Industries (EK)

Leena Wahlfors, Executive Director, Universities Finland UNIFI



Members of the co-ordination group and Sitra's "Lifelong learning" team in a group photo. (Photo: Sari Gustafsson)

Sitra's "Lifelong learning" team

Helena Mustikainen, Project Director
Milma Arola, Leading Specialist
Nina Honkala, Advisor
Tapio Huttula, Senior Advisor
Perttu Jämsén, Specialist
Taru Keltanen, Specialist
Anna-Leena Mansikkala / Päivi Pekkala, Project assistant
Timo Matikainen, Senior Advisor
Anu Paajanen, Project Coordinator
Seija Petrow, Senior Advisor
Sinimaaria Ranki, Leading Specialist
Pinja Ryky, Project Coordinator
Maikki Siuko, Specialist
Anna Välimaa, Specialist

Sources

Chapters 2 and 3

- 1. Anneli Kajanto, Jukka Tuomisto: Elinikäinen oppiminen, 1994.
- 2. Aleksi Kalenius: Taustamuistio talouspolitiikan arviointineuvostolle. https://www.talouspolitiikanarviointineuvosto.fi/wordpress/wp-content/uploads/2018/01/Kalenius_2018.pdf
- 3. Matti Pohjola: Suomen talouskasvu ja sen lähteet 1860–2015. https://www.taloustieteellinenyhdistys.fi/wp-content/uploads/2017/09/KAK_3_2017_176x245_WEB-8-34.pdf
- 4. Statistics Finland: Population projection 2018–2070. https://www.stat.fi/til/vaenn/2018/vaenn_2018_2018-11-16_tie_001_en.html
- 5. Erik Brynjolfsson, Andrew McAfee: The Second Machine Age, 2014.
- 6. Klaus Schwab: The Fourth Industrial Revolution, 2016.

Chapter 5

- 1. Aho, M. and Ranki, S. (2018). With what money? Review of the flow of funding in lifelong learning. Sitra Studies 134.
- 2. Alasalmi, J, Alimov, N., Ansala, L., Busk, H., Huhtala, V-V., Kekäläinen, A., Keskinen, P., Ruuskanen, O-P. and Vuori, L. (2019). Työttömyyden laajat kustannukset yhteiskunnalle. (In Finnish, with English abstract; The overall costs of unemployment for the national economy.) Publication series 16/2019 of Finnish Government analysis, assessment and research activities.
- 3. Asplund, R. & Kauhanen, A. (2018). Teknologinen kehitys, ammattirakenteiden muutos ja osaaminen. Ammattikasvatuksen aikakauskirja, 20: 91–105 https://akakk.fi/wp-content/uploads/AKAKK-1.2018-NET.pdf
- 4. Asplund, R., Kauhanen, A., Määttänen, N. and Valkonen, T. (2015). Tuetaanko Suomessa työllistymistä vai työttömyyttä? ETLA Muistio/Brief No. 37 https://www.etla.fi/wp-content/uploads/ETLA-Muistio-Brief-37.pdf
- 5. Barro, R. and Lee, J-W. (2010). A New Data Set of Educational Attainment in the World, 1950–2010. NBER Working Paper 15902
- 6. Blossfeld, H-P., Kilpi-Jakonen, E., Vono de Vilhena, D. and Buchholz, S. (eds.) (2014). Adult Learning in Modern Societies: An International Comparison from a Life-Course Perspective. eduLIFE Lifelong Learning Series, Vol. 1. Cheltham, UK and Northhampton, MA, USA: Edward Elgar Publishing

- 7. Draper, J., Clark, L. and Rogers, J. (2016). Managers' role in maximizing investment in continuing professional education. Nursing Management, 22 [DOI: 10.7748/nm.22.9.30.s29]
- 8. EC (1999). Economic and Monetary Union. Compilation of Community Legislation. Luxembourg: European Communities
- 9. EUA (2018). Learning and teaching in the European Higher Education Area. Trends 2018 https://eua.eu/resources/publications/757:trends-2018-learning-and-teaching-in-the-european-higher-education-area.html
- 10. Haaparanta, P., Kanninen, O. and Taimio, H. (2019). Kestävyysvaje johtaa talouspolitiikan harhapoluille. Talous ja yhteiskunta 1/2019: 74–84. http://www.labour.fi/ty/tylehti/talous-yhteiskunta-1-2019/kestavyysvaje-johtaa-talouspolitiikan-harhapoluille/
- 11. Heckman, J., Humphries, J., Veramendi, G. (2017). The Non-Market Benefits of Education and Ability. NBER Working Paper 23896 https://www.nber.org/papers/w23896.pdf
- 12. Hulten, C. (2017). The Importance of Education and Skill Development for Economic Growth in the Information Era. NBER Working Paper 24141 https://www.nber.org/papers/w24141
- 13. Hyytinen, A. and Rouvinen, P. (eds.) (2005). Mistä talouskasvu syntyy?, Helsinki: Taloustieto
- 14. Ilmiömäinen julkinen hallinto Keskustelualoite valtioneuvoston uudistamiseksi ISBN 978-952-347-063-7 (nid.) ISBN 978-952-347-064-4 (pdf), Sitra selvityksiä 2018; https://media.sitra.fi/2018/09/03163806/ilmiomainenjulkinenhallinto.pdf
- 15. IMF (2019). Finland. Staff Report for the Article IV Consultation. IMF Country Report No. 19/7 https://www.imf.org/en/Publications/CR/Issues/2019/01/15/Finland-2018-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-46518
- 16. Kangasniemi, M. (2013). Näyttötutkintojen tuottavuus- ja palkkavaikutukset. Labour Institute for Economic Research, Reports 28 http://www.labour.fi/?wpfb_dl=1147
- 17. Karhunen, H. (2018). Tiekartta kohti vaikuttavaa ja kustannustehokasta aikuiskoulutusta Aikuiskoulutus tarvitsee mitalliset tavoitteet. In the publication Koulutuksen digiloikka Miten onnistumme suomalaisten osaamisen päivittämisessä, Teollisuuden palkansaajat https://www.tpry.fi/edistys-julkaisusarja/edistys-raportit/koulutuksen-digiloikka.-miten-onnistumme-suomalaisten-osaamisen-paivittamisessa..html
- 18. Kauhanen, A. (2018). Yksilön, yrityksen ja yhteiskunnan vastuu työuranaikaisessa kouluttautumisessa. ETLA Muistio/Brief No. 67 https://www.etla.fi/wp-content/uploads/ETLA-Muistio-Brief-67.pdf
- 19. Kilpi-Jakonen, E., Vono de Vilhena, D. and Blossfeld, H-P. (2015). Adult learning and social inequalities: Processes of equalization or cumulative disadvantage? International Review of Education, 61: 529-546 https://doi.org/10.1007/s11159-015-9498-5

- 20. Kivistö, J. (2018). Suomen julkisen talouden kestävyys. Euro ja talous: Suomen Pankin ajankohtaisia artikkeleita taloudesta https://www.eurojatalous.fi/fi/2018/5/suomen-julkisen- talouden-kestavyys/
- 21. Knipprath, H. and De Rick, K. (2015). How Social and Human Capital Predict Participation in Lifelong Learning: A Longitudinal Data Analysis. Adult Education Quarterly, 65: 50–66
- 22. Kosonen, J. and Miettinen, T. (2019). Korkeakoulut työuran aikaisen oppimisen edistäjinä. Selvitys lainsäädännön, rahoitusperusteiden ja hallinnollisen ohjauksen vaikutuksista yliopistojen ja ammattikorkeakoulujen mahdollisuuksiin edistää työuran aikaista oppimista. Sitra memorandum. https://media.sitra.fi/2019/02/28154613/korkeakoulut-tyouran-aikaisen-oppimi-sen-edistajina.pdf
- 23. Kotilainen. M. (2015). Kokonaistuottavuuden kehitys entistä tärkeämpää Suomen pitkän aikavälin taloudelliselle kasvulle. Kansantaloudellinen aikakauskirja 111: 287–293
- 24. Lavrijsen, J. and Nicaise, I. (2017). Returns on vocational education over the life cycle: Between immediate about market preparation and lifelong employability. International Review of Education, 63: 257–280 https://doi.org/10.1007/s11159-017-9630-9
- 25. Maczulskij, T. and Kauhanen, M. (2016). Työmarkkinoiden polarisaatio ja työvoiman liikkuvuus mihin rutiininomaista työtä tekevät työntekijät päätyvät? Kansantaloudellinen aikakauskirja 112: 284–296 http://www.taloustieteellinenyhdistys.fi/wp-content/ uploads/2016/10/KAK-3_2016-maczulskij-ja-kauhanen.pdf
- 26. Malamud, O. (2010). Breadth vs. Depth: The Timing of Specialization in Higher Education, NBER Working Paper 15943
- 27. Maliranta, M. (2014). Innovointi, "luova tuho" erot maiden, toimialojen ja yritysryhmien välillä. Kansantaloudellinen aikakauskirja 110: 20–41
- 28. Manninen, J. (2018). Kansalaisopiston aikuisopiskelijat luokkakuvassa. Kansalaisopiston merkitys kuntalaisille ja kunnalle. Kansalaisopistojen liiton julkaisuja, 3 https://kansalaisopis-tojenliitto.fi/wp-content/uploads/2018/09/Kansalaisopiston_ aikuisopiskelijat_luokkakuvassa_2018.pdf
- 29. Martin, J. (2018). Skills for the 21st century: Findings and policy lessons from the OECD survey of adult skills. OECD Education Working Papers, No. 166, OECD Publishing, Paris. http://dx.doi.org/10.1787/96e69229-en
- 30. Myrskylä P. (2009) Koulutus periytyy edelleen. Hyvinvointikatsaus 1/2009, 1–8.
- 31. Obstbaum, M: and Vanhala, J. (2016). Polarisaatio Suomen työmarkkinoilla. Euro ja talous: Suomen Pankin ajankohtaisia artikkeleita taloudesta https://www.eurojatalous.fi/fi/2016/artikkelit/polarisaatio-suomen-tyomarkkinoilla/

- 32. OECD (2017). Is labour market demand keeping pace with the rising educational attain- ment of the population? Education Indicators in Focus, 57 https://www.oecd-ilibrary.org/docserver/1410f36e-en.pdf?expires=1546866589andamp;id=idandamp;accname=guestandamp;check
- 33. OECD (2018a). OECD Economic Outlook, Volume 2018, Issue 2 http://www.oecd.org/eco/outlook/economic-forecast-summary-finland-oecd-economic-outlook.pdf
- 34. OECD (2018b). How does the earnings advantage of tertiary-educated workers evolve across generations? Education Indicators in Focus, 62 https://www.oecd-ilibrary.org/ docserver/3093362c-en.pdf?expires=1547560998andamp;id=idandamp;accname=guestandamp;check
- 35. OECD (2018c). How is the tertiary-educated population evolving? Education Indicators in Focus, 61 https://www.oecd-ilibrary.org/docserver/a17e95dc-en.pdf?expires=1551857672 &id=id&accname=guest&checksum=AF9FF0929F917FA46B338025F62475F3
- 36. Oosi, O., Koramo, M., Korhonen, N., Järvelin, A-M., Luukkonen, T., Tirronen, J. & Jauhola, L. (2019). A Study on Structures to Support Continuous Learning International Benchlearning
- 37. Pekkarinen, T. and Sarvimäki, M. (2016). Parempi tapa valita korkeakouluopiskelijat. VATT Policy Brief 1–2016 https://vatt.fi/parempi-tapa-valita-korkeakouluopiskelijat
- 38. Pohjola, M. (2017). Tuottavuus, rakennemuutos ja talouskasvu 1975–2015. Kansantaloudellinen aikakauskirja 113: 463–488 https://www.taloustieteellinenyhdistys.fi/wp-content/uploads/2017/12/LOW3_30616645_KAK_sisus_4_2017_176x245-1-7-32.pdf
- 39. Ranki, S. (1996). EMU:n taloudellisten perustelujen retoriikka. Eurooppa-Instituutin keskusteluaiheita 2/96
- 40. Roche, S. (2017a). Learning for life, for work, and for its own sake: the value (and values) of lifelong learning. International Review of Education, 63: 623–629
- 41. Roche, S. (2017b). Sum ergo disco: The ubiquity of learning (in non-formal and informal settings). International Review of Education, 63: 297–301
- 42. Seppänen, T. (2018). Henkilöstökoulutus vaihtelee Euroopassa Neljä kymmenestä työntekijästä osallistuu, isot erot kustannuksissa. TietoandTrendit, 9 November 2018 http://www.stat.fi/tietot-rendit/artikkelit/2018/henkilostokoulutus-euroopassa-nelja-kymmenesta-tyontekijasta-osallis-tuu-isot-erot-kustannuksissa/
- 43. Silvennoinen, H. and Nori, H. (2017). In the margins of training and learning. Journal of Workplace Learning, 29: 185–199 [DOI: 10.1108/JWL-08-2016-0072]
- 44. Suhonen, T. and Jokinen, J. (2018). Mikä on tutkintotodistuksesi tuotto? Talous ja yhteiskunta, 2: 30-37
- 45. Economic Policy Council. (2018). Economic Policy Council Report 2017. https://www.talouspolitiikanarviointineuvosto.fi/wordpress/wp-content/uploads/2018/01/Report2017.pdf

- 46. Ministry of Economic Affairs and Employment (2018). Work in the age of artificial intelligence: Four perspectives on the economy, employment, skills and ethics. Publications of the Ministry of Economic Affairs and Employment, 19/2018 http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160980/TEMjul_21_2018_Work_in_the_age.pdf
- 48. Valletta, R. (2016). Recent Flattening in the Higher Education Wage Premium: Polarization, Skill Downgrading, or Both? NBER Working Paper 22935
- 49. Ministry of Finance. (2018). Työ, hyvinvointi ja tulevaisuus. Valtiovarainministeriön tulevaisuuskatsaus. (In Finnish, with English abstract; Work, welfare and future. Futures review of the Ministry of Finance.) Finnish government publication series 17/2018 http://julkaisut.valtioneuvosto.fi/bitstream/handle/10024/160899/17_TUKA_VM_WEB.pdf?sequence=1andamp;isAll
- 50. Report by the working group determining viewpoints on phenomenon-based budgeting (in Finnish): https://api.hankeikkuna.fi/asiakirjat/586ec3b2-4bf3-4e6d-b8f9-c9ee44b140d2/804f0322-721a-4ffe-bb2e-b6a7f9f1c767/JULKAISU_20190125130000.PDF
- 51. Ministry of Finance (2018). Työ, hyvinvointi ja tulevaisuus. Valtiovarainministeriön tulevaisuuskatsaus. (In Finnish, with English abstract; Work, welfare and future. Futures review of the Ministry of Finance.) Finnish government publication series 17/2018
- 52. VNp (2003). Valtioneuvoston päätös valtiontalouden kehysehdotusten, talousarvioehdo tusten sekä toiminta- ja taloussuunnitelmien laadintaperiaatteista. 24 April 2003 <a href="https://vm.fi/documents/10623/307577/Valtioneuvoston+p%C3%A4*%C3%A4*%C3%B6s+valtiontalouden+kehysehdotusten%2C+talousarvioehdotusten+sek%C3%A4+toiminta-+ja+taloussuunnitelmien+laadintaperiaatteista/89420d3f-0d1f-4beb-80bf-2811b3a542ba/Valtioneuvoston+p%C3%A4*%C3%B6s+valtiontalouden+kehysehdotusten%2C+talousarvioehdotusten+sek%C3%A4+toiminta-+ja+taloussuunnitelmien+laadintaperiaatteista.pdf
- 53. National Audit Office of Finland (2019). Osaamisen vahvistaminen edistää työllistymistä. Annual report 2018, web article. https://www.vtv.fi/julkaisut/vuosikertomus-2018-osaamisen-vahvistaminen-edistaa-tyollistymista/
- 54. Woessmann, L. (2016). The economic case for education. Education Economics, 24: 3–32 [DOI: 10.1080/09645292.2015.1059801]



SITRA STUDIES 159

Sitra Studies is a publication series which focuses on the conclusions and outcomes of Sitra's future-oriented work.

ISBN 978-952-347-127-6 (paperback) ISBN 978-952-347-128-3 (PDF) www.sitra.fi ISSN 1796-7104 (paperback) ISSN 1796-7112 (PDF) www.sitra.fi

SITRA.FI/EN

Itämerenkatu 11−13 P.O. Box 160 FI-00181 Helsinki Finland Telephone +358 294 618 991 ❤ @SitraFund