EXECUTIVE SUMMARY

THE FUTURE OF EDUCATION

REALIZING LEARNERS' POTENTIAL ACROSS EUROPE

"THE HARDEST THING ABOUT EDUCATION IS TO BE AMBITIOUS ENOUGH."

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THE FUTURE IS THE UNDISCOVERED LAND.

EDUCATION IS THE WINDOW THROUGH WHICH WE SEE THIS LAND.

Children who are born today will retire in around 2075. The economic, social and technical developments of the last 50 years provide a projection screen for the society of the future and reveal how much – or better, how little – success we can have in making accurate statements about the world 50 years from now. Nonetheless, we are aware that this is the world which we are preparing our children for by means of today's education system.

The future of education and the future world of work are closely linked. A particularly important role is played by the question of how the education system has to be adapted to the structural transformation of the European economic area in order to be able to ensure employability and prosperity in the future. However, the guiding principles of education must not be reduced to preparation for the employment market, but should be orientated towards a society which is being transformed in every way.

We therefore present the potential-orientated education system, which puts the talents of the individual first. It is derived from the knowledge- & innovationsociety, and primarily supports social learning and the ability to take criticism and practise democracy, and thus leads to action based on solidarity both at work and in private life. A solid basic education, social and personal skills, media skills, general education, humanist education and creativity will be equal disciplines in this education system of the future.

Decision-makers from interest groups, educational policy bodies and the business world were surveyed for this study. In addition, the publicised findings and analyses of international education experts and institutions were incorporated into the study.

We are not under the illusion that changing the education system is a simple task. Nevertheless, we want to reveal opportunities and chances, even if they may appear utopian from the current perspective, because it is the education sector which should be the spearhead of society in a sustainable future.

With our paper we would like to contribute to a spirit of optimism which at its core always poses the question of how to facilitate and develop potential.

We want to start a dialogue – your opinions and reactions are important and valuable to us.

FRANZ KUEHMAYER

THE FUTURE OF WORK

AND ITS EFFECTS ON EDUCATION.

EDUCATION IS OF MAJOR SIGNIFICANCE FOR GROWTH, EMPLOYMENT AND A POSITIVE DEVELOPMENT OF THE ECONOMY.

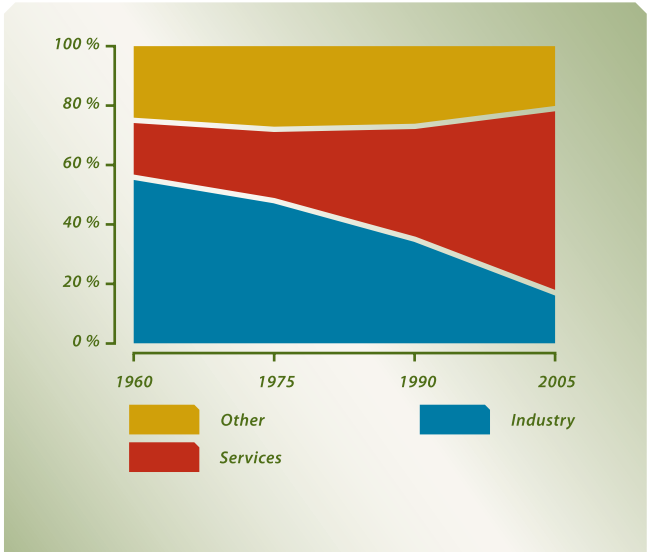
The European economy is undergoing a fundamental socio-economic transformation. The contribution of the education system towards increasing productivity and competitivity in the innovative knowledge economy of the 21st century will be decisive.

The knowledge society: from scarcity will come abundance, and social skills will become the primary focus

Whereas industrial-economic structures led to the affluence of the present, the prosperity of the future will depend on the structures of the knowledge economy. In this way, the concept of productivity gains a new significance – it is no longer a question of the volume of output, but of its quality, because in the knowledge society, innovation and creativity add the value. The amount of knowledge and the speed of its turnover are exploding. When someone begins a four-year university course today, the content of the first year may be already outdated by the time they finish the course. And yet the information jungle and the knowledge desert are still immediate neighbours; too little information often turned into too much. As paradoxical as it may sound, the mandate which the knowledge society gives to education is not to ensure the acquisition of knowledge, but to help people learn to use it effectively. And thus social skills become the primary focus.

The transformation of the employment market

Finding qualified staff continues to be one of the greatest challenges for businesses. On the one hand, existing job profiles are gaining a new context. To use the example of a car mechanic: a job previously dominated by manual skills is increasingly becoming orientated towards mechatronics and requires knowledge of electronics and foreign languages. Furthermore, new occupations are being created: case managers, energy consultants, food stylists, game designers, information brokers, crypto engineers – all of these are job titles from current advertisements. Finally, career biographies are also being transformed: links to companies and also to specific roles are becoming weaker, and instead of the industrial biography which strictly followed the path of learning-work-retirement, there is now an increasing trend towards portfolio-type CVs with many detours.



A changing labour market – sectoral share of employment.

Source: OECD, Zukunftsinstitut

	EU 27	Korea
Public expenditure on education (% of total government expenditure)	11,90 %	16,50 %
GDP per capita (PPP US$)	25.464	22.029
Internet users (per 1.000 people)	228	684
Patents granted to residents (per mio people)	246	1.113
Inequality measures (ratio of richest 20% to poorest 20%)	5,1 %	4,7 %
High-technology exports (% of total manufactured exports)	10,9 %	32,3 %
Unemployment rate Total	8,0 %	3,7 %

The Korea Phenomenon:
In the 1960s, Korea had the same gross domestic product as Afghanistan.

Source: United Nations Human Development Report

"THE TIME WHEN EUROPE COMPETED MOSTLY WITH COUNTRIES THAT OFFERED LOW-SKILLED WORK AT LOW WAGES IS LONG GONE."

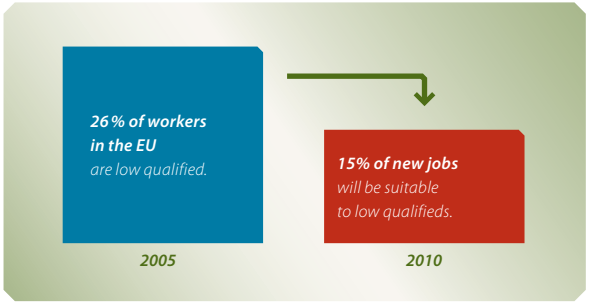
ANDREAS SCHLEICHER, OECD

The world is flat

Businesses are increasingly acting on a global scale, a trend which is intensified by the rise of the so-called emerging nations. This is due to both the way in which these countries are rapidly making up economic ground, and also purely to the size of their populations.

However, size is not always decisive; targeted education policies are at least as important, as is underlined by the rise of Korea. Until now, Europe has benefited from globalisation. But the direction could change soon – there is no reason to expect that the emerging nations will continue to be workbenches in the longer term.

Soon there will be plenty of high-quality, innovative products forcing their way onto the European market – with dramatic consequences: as early as 2010, only 15% of the new jobs in Europe will be suitable for people with low qualifications. The need for higher qualifications will rise automatically, because not only employability, but also prosperity are directly linked to the level of education.



Increasing need for higher education.

Source: European Foundation for the Improvement of Living and Working Conditions, research

Brain gain or brain drain?

Increased mobility, language skills and international exchange are closely linked to the growing globalisation of the world economy.

But mobility not only means movement, but also flexibility: social and cultural flexibility. The skills of being able to work inter-nationally, inter-culturally and inter-socially will gain in significance. One aspect of this is the mobility of highly-qualified, creative people. While there is a risk of a brain drain, there is also the opportunity for countries to become an attractive destination for foreign students.

People with migrant backgrounds are often disproportionately affected by dequalification and disadvantageous decisions made about the course of their education. Apart from the human and social aspect, educating and training migrants poorly and not employing them in accordance with their training is irresponsible with regard to the business location.

Network children and the silver economy

From the necessity for lifelong high qualifications stems the demand for an education system which makes this possible through lifelong learning – also taking into account the aspect of balancing work, family life and learning.

However, the expectation that older people have to learn from younger ones throughout their lives only illuminates one aspect: productive ageing can only succeed if lifelong learning is not seen as a one-way street which leads from old to young, but also as a constant dialogue and supported exchange of knowledge, experience and skills.

CONSEQUENCES FOR THE FUTURE OF EDUCATION:

- Those social skills which enable people to learn to use knowledge effectively should be placed alongside the acquisition of knowledge.
- The dynamic nature of job profiles and career paths demands that curriculums which have been set in stone be reconsidered in order to develop their contents dynamically.
- From the necessity of promoting the innovative strength of the economy as a central element comes the mandate for education to enable people to learn and experience creativity.
- Language skills and intercultural competences are essential abilities in a global society and go far beyond a knowledge of English and the obligatory semester abroad.
- Social barriers and filters in the education system have to be broken down quickly and lastingly in order to reduce dequalification and to ensure lifelong employability.
- Demographic developments pose new challenges for lifelong learning which go beyond the current concepts of adult education.

"AN INNOVATIVE SOCIETY DEMANDS INNOVATION LEARNING RATHER THAN IMITATION LEARNING."

BRIGITTE EDERER,
CEO CENTRAL AND EASTERN EUROPE CLUSTER, SIEMENS

MASTERING CHANGE.

SHAPING THE FUTURE.

REFLECTING UPON EDUCATION IS NEVER ONLY REFLECTION ABOUT SCHOOLS OR TRAINING, BUT ALSO IMPLIES REFLECTION ABOUT SOCIETY.

Education not only conveys a canon of knowledge, but something much more important: a system of values, on the basis of which the future will take shape. Participating in education not only enables people to subsist in the dynamic changes of our world, but also to actively and positively shape the future.

The profound and lasting transformation taking place in society and the economy calls for value-orientated, integral personalities. This also necessitates changes in the dimensions of the education system.

We will continue to learn new things throughout the course of our lives. But not only the duration of learning will change, so will its breadth – by extending the areas of competence that are taught and by specifically targeting creativity and innovation.

The potential-orientated education system prepares for this via targeted content-related and structural focuses.

"THE PURPOSE OF EDUCATION IS TO REPLACE AN EMPTY MIND WITH AN OPEN MIND."

MALCOM FORBES

A leadership-orientated portfolio of competences

Regardless of the entirely personal question of what a successful life means, individual and social success in the future will require competences which address the development of one's own personality as well as social competences related to the role of the individual as a responsible member of society.

These competences include:

- Initiative and personal responsibility
- Entrepreneurial mindset
- Engagement and social responsibility
- Willingness to change, flexibility and the willingness to learn
- The ability to work in a team
- Communication
- The ability to reflect
- Problem-solving skills and the ability to deal with conflicts
- Empathy and intercultural action
- Innovation skills and creativity

Schools of the future will have to aim to teach these competences and thus teach leadership for one's own private life, for one's career and for society.

How successful we are in keeping Europe fit as a business location, sustaining prosperity, maintaining social cohesion and correctly assessing ecological consequences – all of these things will depend on the decisions of the coming generation. In an enlightened democratic society, education has the task of putting each individual in a position to make the right decisions.

Innovation as the driving force behind prosperity

While the link between research and prosperity is clear, the lack of qualified skilled workers – particularly in the technically-orientated specialisations – is just as obvious and severe. There is a shortage of up-and-coming young specialists in science and technology throughout Europe – and the competition for the greatest talents will become much more intensive. The winners of this race will be those who have implemented the best strategy to ensure a supply of young talent and to provide education in the field of innovation.

Do schools kill creativity?

Creativity not only creates and maintains added value, it is the key to innovation in all aspects of social, ecological and economic development, and a crucial element of our humanity.

Creativity blossoms in the interplay between tension and freedom, inspiration and complexity, and requires tools and process models.

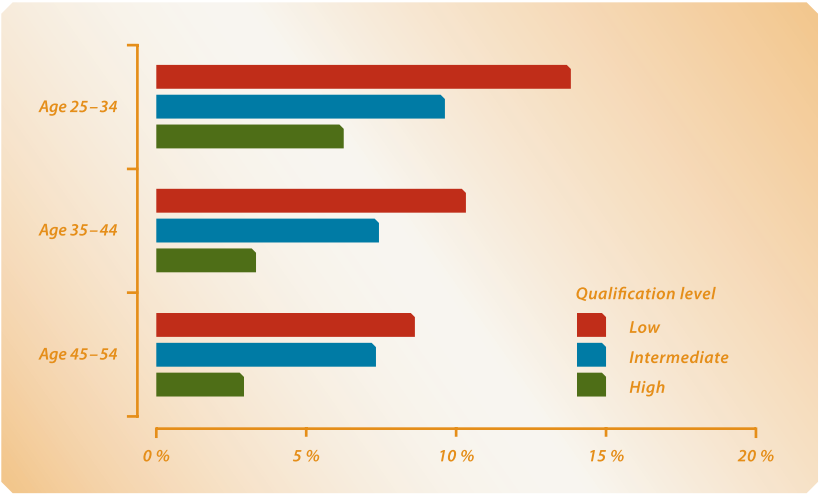
The goal of a potential-orientated education system therefore has to be the establishment of environments and ways of working in which there is a passion for trying out new solutions and the creation of an atmosphere in which concentration and relaxation, stimulation and joy, security and a willingness to take risks, stress and release can exist alongside each other, and in which there is an appetite for experimentation.

"ALL CHILDREN ARE BORN ARTISTS. THE PROBLEM IS TO REMAIN AN ARTIST AS WE GROW UP."

PABLO PICASSO

Unemployment rates in Europe by qualification level and age group.

Source: Eurostat



No more average decathletes

If you cannot afford to make mistakes you will never develop anything original or creative. Overall this leads to outstanding gifts being curtailed in order to compensate for existing weaknesses in other fields – with the result that there is uniform mediocrity.

If individual pupils are the centre of attention, it is not a question of looking for the smallest common denominator in view of the different gifts they have, but – on the contrary – to look towards the greatest individual potential.

Re-evaluation of the subject hierarchy

The existing hierarchy of subjects in Western school systems is based on the necessities of society at the time of the industrial revolution more than a hundred years ago.

This historical canon of subjects has to be re-evaluated, because skills which will be urgently needed in the future are conveyed via subjects which until now have had the status of something rather exotic. It is not a question of delegating creativity to arts subjects.

Creativity is an attitude and a skill, and can and should be conveyed independently of the respective subject.

The creative role of technology

Computers are no longer just there to get familiar tasks done more quickly; they have developed into an instrument for treading new paths.

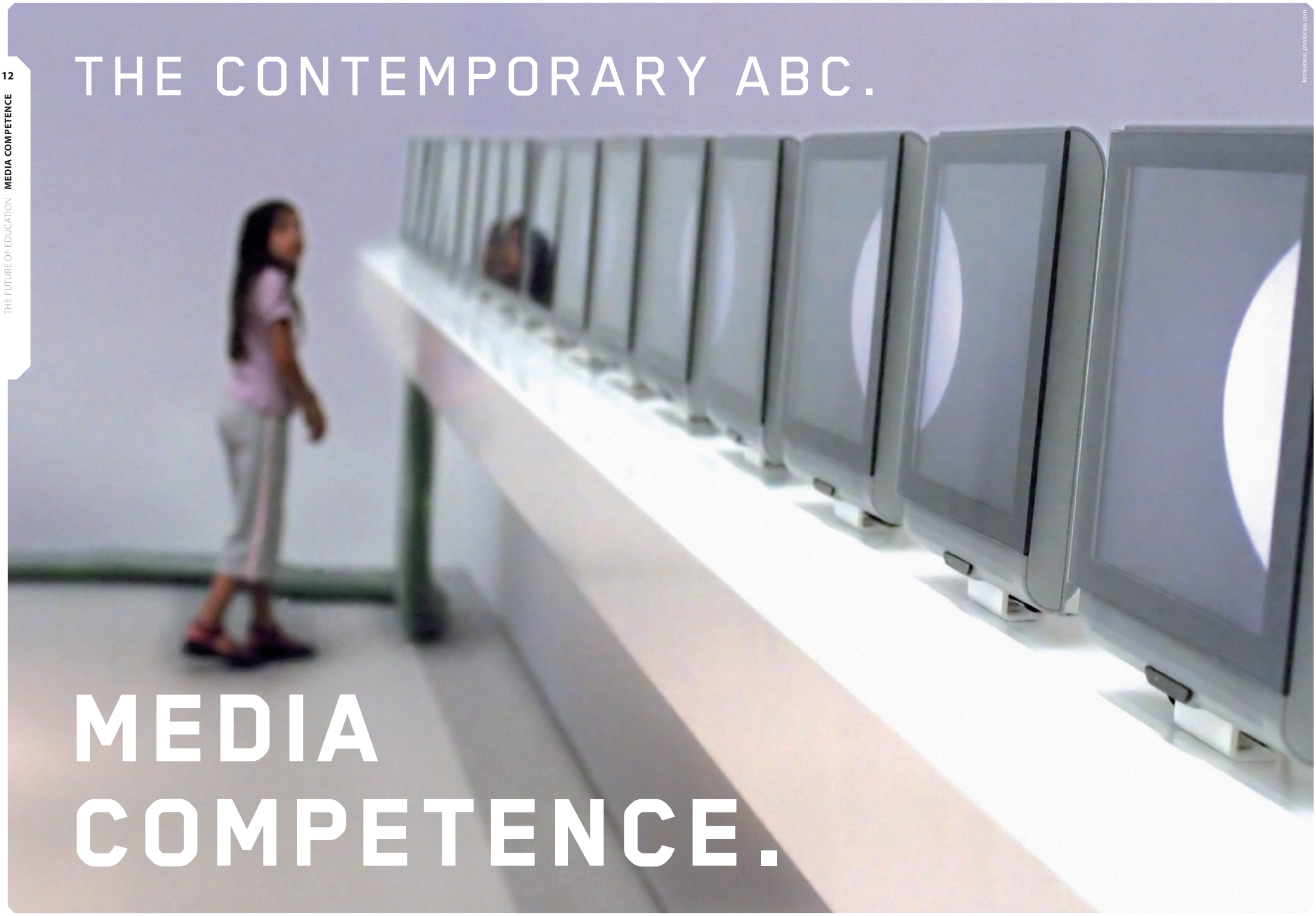
The development of IT reveals the whole range of human creativity: in a technical, economic and social sense. Information technology can therefore take on essential functions related to creativity: on the one hand as a medium for creativity, on the other hand as a tool to facilitate creative solutions and to open up new paths.

CONSEQUENCES FOR THE FUTURE OF EDUCATION:

- Schools of the future will have to aim to teach leadership for one's own private life, for one's working life and for society. Social skills and personality skills will emerge alongside the core subjects as disciplines on an equal footing.
- An innovation-friendly education system will be subject to a profound transformation which restructures both the subjects taught as well as the way knowledge is conveyed.
- An early and motivating encounter with science and technology is an essential precondition for creating enthusiasm for research.
- As the key to innovation, creativity is of decisive importance and has to become a cross-curricular guiding principle of the education system.
- The result is the challenge of promoting a system in which mistakes can and should be made, and which is orientated towards individual possibilities.
- Promoting communication and the ability to cooperate is essential in order to make creativity usable for society in general.
- In order to guide the education system from the industrial age into the knowledge age, a reassessment of the hierarchy of subjects is necessary with a view to the role of creativity and innovation.
- In the area around creativity, information technology can take on the role of a medium and a tool.

THE CONTEMPORARY ABC.

MEDIA COMPETENCE.



DIGITAL LIFESTYLE HAS BECOME A REALITY, AND THE COMPUTER HAS BECOME THE TOOL AND CATALYST OF EDUCATION.

Handling information technology has developed into a further cultural technique. But technological skills alone are not sufficient: in view of the diverse areas of life and work which are now affected by information and communications technology (ICT), it is no longer only a question of mastering their use, but of understanding their effect on everyday private and working life.

Computers are a unique tool for use in teaching – and this opportunity cannot be properly exploited by merely installing PCs in a classroom.

Evidence from 17 recent studies and surveys on the impact of ICT on schools in Europe. *Source: European Schoolnet*

- 86% OF TEACHERS IN EUROPE STATE THAT PUPILS ARE **MORE MOTIVATED** AND ATTENTIVE WHEN COMPUTERS AND THE INTERNET ARE USED IN CLASS.
- ICT **POSITIVELY IMPACTS EDUCATIONAL PERFORMANCE**.
- ICT HAS A **STRONG MOTIVATIONAL INFLUENCE** AND POSITIVE EFFECTS ON BEHAVIOUR, COMMUNICATION AND PROCESS SKILLS.
- ICT ALLOWS FOR **GREATER DIFFERENTIATION** WITH PROGRAMMES TAILORED TO INDIVIDUAL PUPILS' NEEDS.
- **COLLABORATION BETWEEN STUDENTS IS GREATER** WHEN THEY USE ICT FOR PROJECT WORK.
- **PUPILS WITH SPECIAL NEEDS** OR BEHAVIOURAL DIFFICULTIES GAIN IN VARIOUS WAYS FROM THE USE OF ICT.

The benefits of IT in the education sector

Apart from the relevance of computer skills for private and working life, the use of information technology in schools promises a range of advantages: these include improved learning, increased engagement on the part of the pupils, better orientation towards competences which will be required in the future, and closing the digital gap in society. IT is thus both a catalyst for education and an indispensable educational instrument.

In order to make full use of its advantages, the deployment of technology in schools must go far beyond the phase of replacing existing teaching aids. Personalised learning does not mean to continue traditional teaching methods with modern technology, but to compile and implement self-chosen learning programmes.

The roles of the school and the teacher will change. Unsurprisingly there is a direct link between the ICT skills of teachers and their success in employing ICT in the classroom. But as they do today, pupils will continue to 'know more' in this field than teachers in the future.

The authority of teachers is therefore not a function of their IT knowledge, but of their pedagogic attitude. A further important determinant is the incorporation of ICT into a comprehensive educational strategy, both with regard to the current equipment as well as to the integration into lessons of the multi-layered opportunities offered by ICT.

Children and parents.

Source: BECTA

- **1% of parents** think their child is blogging.
- **33% of children** use blogs.
- **67% of parents** do not know what a blog is.

- **65% of parents** are able to block the access to specific websites.
- **46% of children** know how to bypass such blocks.

- **26% of parents** do not know how to track the internet browsing history.
- **65% of children** know how to delete the browsing history.

- **79% of children** use instant messenger or chatrooms.
- **29% of parents** do not know what instant messenger is.

Using ICT as a vehicle

The fact that children like to use ICT in a playful way provides an ideal basis for facilitating self-motivated and creative learning via the deployment of ICT within a broad range of subjects.

Not an isolated tool, but an integrated system

The learning platform of the future will be highly-integrated and embedded into an overall system which alongside teaching also includes the documentation of progress and the related administrative tasks. It will cover a multitude of elements:

Game-based learning – in the future, computer games will not only foster the psychomotoric and problem-solving abilities of the individual, but also their interaction and networking with others.

Virtual environments – networking among pupils will take place within learning environments which go beyond the borders of individual classes or schools. Pupils can hold exchanges about projects, take up elements from others and reuse them themselves, and will be offered inspiration by virtual mentors in the form of new ideas, tasks and suggestions.

Content 3.0 – the content offered via learning platforms is becoming increasingly diverse, interactive, semantically linked and personalised.

A lifelong personal learning record – pupils have a highly personal portfolio of learning content and certificates which can be regularly supplemented throughout the course of their lives.

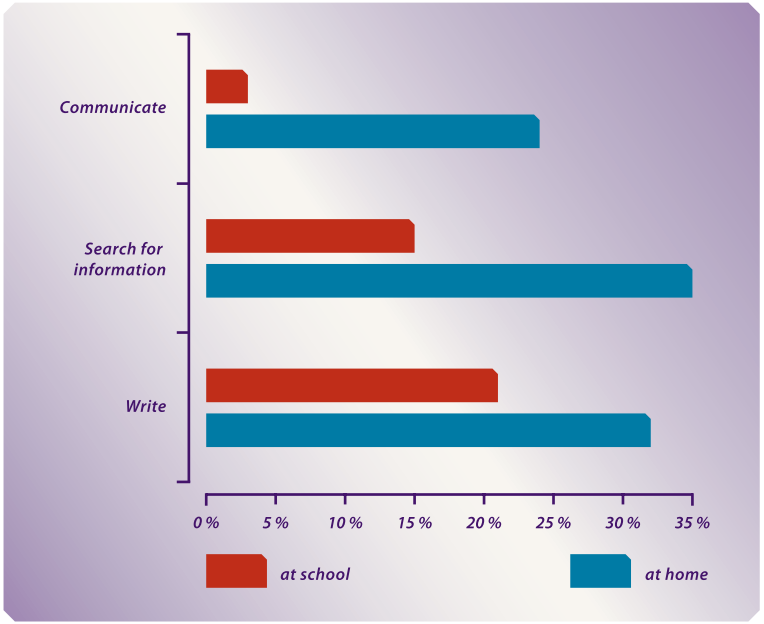
School administration – a workflow-based system with open interfaces provides effective support for the administrative process.

Interaction – in the area of the user interfaces and interaction surfaces between humans and machines, significant progress can be expected in the coming years. In this way the access to IT will become more natural. In addition, all those people who due to special needs have difficulties with the traditional interface of the keyboard/mouse will particularly profit from the elimination of barriers.

For almost all companies, ICT has become 'business critical'; in other words a decisive factor for success. The same standard also has to be applied to the education system, whereby such important infrastructure is not only a technical solution, but a complete system combining technologies and processes.

How the computer is being used at school and at home.

Source: IEA, PIRL



Dealing with ICT in a critical way

Above and beyond the core competence of using computers, it is also necessary to learn how to deal with them responsibly.

Without resorting to finger-wagging, there is a need to reappraise how the credibility of information is legitimated, which consequences result from the blurring of the boundaries of privacy, how a balance can be achieved between risks and security, and what contribution citizens can make online.

The education system has the responsible task of acting as a critical guide and reflecting coach.

CONSEQUENCES FOR THE FUTURE OF EDUCATION:

- The direct correlation between ICT skills and the attitude and motivation of teachers on the one hand and the success of the use of ICT in teaching on the other hand underlines the importance of regular training and continuing education for teachers, and suggests that it is important to create suitable incentives.
- Preparing the way to deal with the medium responsibly is crucial and should be incorporated into lessons, whereby the teacher has the role of a critical guide and a reflecting coach.
- In order to fully make use of its advantages, the deployment of technology in schools will go far beyond replacing existing teaching aids and establish new, pupil-centred learning methods and processes.
- Cooperation between pupils and teachers will take place within virtual learning environments. The content offered will be multimedia, interactive, and personalised for the individual pupil.
- Learning environments will go beyond the borders of the classroom and offer a multitude of opportunities for networking.
- Due to the progress in the field of user interfaces, access to IT will become more natural and ever-present; barriers to its use will be lowered.
- Learning materials will no longer have a sell-by date, but will become a constant companion for lifelong learning, complemented by automatically documented and archived learning progress.
- The school administration will profit from a comprehensive, workflow-based system.
- Alongside the technology itself, a successful path to the integration of IT in the education system consists of a wholly planned system which includes an accompanying change process, permanent learning cycles, benchmarks and quality assurance measures.

"LEARNING ENVIRONMENTS WILL HAVE TO CHANGE DRAMATICALLY WITHIN THE NEXT DECADE."

QUOTE FROM THE EXPERT INTERVIEWS

SHARED RESPONSIBILITIES

REPLACE
CLEAR ROLE MODELS.

THE FUTURE OF EDUCATION IS NOT ABOUT CONSTRUCTING FASCINATING SCHOOL BUILDINGS, BUT ABOUT CREATING AN ENVIRONMENT FROM WHICH FASCINATED PUPILS EMERGE. THE INDIVIDUAL IS THE SYSTEM.

Traditional models – stemming from the industrial age – have created a defined education system and then challenged the individual to prove him or herself in this system.

A model which is orientated towards the guiding principles of the knowledge age, however, focuses on the learner and asks what an education system should look like to support pupils in the fulfilment of their potential.

TRADITIONAL EDUCATION SYSTEM	POTENTIAL-ORIENTED EDUCATION SYSTEM
» Instructor based learning	» Personalized learning
» Existing curriculum	» Co-created curriculum
» School as community	» School as part of the community
» School centered ICT	» Utilization of all elements of the digital lifestyle
» School as provider, learner as receptor	» School as partner, learner as explorer
» Paper-based, manual processes	» Multi-channel learning experience
» Building at the center	» Leaner at the center

In the potential-orientated education system …

… the demands of the curriculum are viewed from the perspective of the pupils with their individual abilities, talents and interests.

… curiosity, innovative spirit and creativity are developed, fostered and maintained.

… an all-inclusive, critical understanding is conveyed, not only fact-based knowledge.

… there is an atmosphere of enthusiasm for learning which radiates joy in learning and a willingness to perform at high levels.

… a responsible attitude towards the environment and the degree of freedom available is imparted.

… all of the partners in the learning process are integrated into the process and expected to make a contribution.

… far-reaching support and accompanying measures are made available to all participants.

… there is a feedback culture which orientates itself towards constant further development.

"THE AIM IS NOT TO ATTEND SCHOOL IN A MINIMALISTIC WAY BUT IN A PASSIONATE WAY."

QUOTE FROM THE EXPERT INTERVIEWS

The role of the pupils

The younger generation is coming increasingly under pressure: wide-ranging factors such as the political and economic situation, the social environment and the ecological outlook influence the future prospects of young people.

Education is the most promising escape route to a positive future; this assessment is not only shared by experts, but also by children and young people themselves. However, personalised, self-organised learning signifies a departure from the traditional consumerist attitude in the school system and requires a high degree of taking responsibility for the course of one's personal learning. In a potential-orientated education system, which constitutes a social learning space where activity is promoted, and the commitment of the pupils to their own success in learning is required.

Support for those pupils who have special needs merits special attention, such as for highly talented children, children with learning difficulties, children with disabilities and children from migrant backgrounds

Lessons are defined by new forms of learning

The insight that education is not a product which can be transported from the teacher to the learner has prevailed. In the potential-orientated model, learning is a self-regulated process. Learning environments have to reflect this, so new forms of learning will increasingly replace the transfer of content via the 'chalk and talk' method:

Assignments – learning tasks which have clear objectives but which allow learners a high degree of freedom in the choice of means and how they proceed.
Simulations – make it possible to test the results of decisions upon complex overall concepts.
Case Studies – learning through the critical use of case studies guides learners via specific questions to insights and a gain in knowledge.
Mentorships – learning through confidential dialogue helps to accelerate personal performance and maturity.
Cooperation outside the schools sector – the involvement of external experts supports the school's network of competences.

Role of the teachers in the world's best educational systems.

Source: McKinsey

- Teachers are among the **top 10%** academic caliber within their cohort.
- The teaching profession is viewed as one of the **top 3 career choices** by university students.
- Selection process contains rigorous checks designed to assess teaching potential.
- **1 out of 10 applications** to teacher courses is accepted.
- New teachers receive **>20 weeks of coaching.**
- 10% of working time is used for **professional development.**
- Teachers regularly observe and **coach each other.**

The new role of teachers

In a potential-orientated education system, teachers see themselves as the advocates of their pupils, and interpret educational standards and curriculum requirements from the central perspective of the learner – as individually as possible. It is clear that teachers radically change their role in this process: they are no longer administrators of hermetic knowledge, but specialists for learning skills. The knowledge expert is replaced by a learning expert.

The most successful school systems of the world are characterised by the fact that they obtain the right people as teachers and continuously develop their abilities. A radical selection process is carried out at an early stage among prospective teachers which ensures that only the best are taken on, and that they remain motivated, qualified and engaged thanks to high-quality and compulsory in-service training measures. At the same time, the teaching profession is among the most desirable careers in these countries, and teachers are backed up by feedback and support measures which should actually be a matter of course everywhere. Performance orientation and regular appraisals should be normal – as should systematic personnel development, continuing education and genuine teamwork.

Room for thinking and learning

When new forms of learning replace teacher-centred lessons, the design and furnishing of classrooms also have to reflect this. Retreat areas which can be used for learning in peace, for discussions or group work and flexible team scenarios require that schools of the future leave classical interior design concepts behind.

The role of the parents

Just as pupils are expected to change from a consumerist attitude to a responsible, participatory one, the same is also expected of parents. In the potential-orientated education system, parents fulfil their role as genuine partners of the school, participate actively in the learning process of their children, provide them with orientation and attention and are actively involved in lessons via a continuous dialogue with the school and its teachers.

CONSEQUENCES FOR THE FUTURE OF EDUCATION:

- The learning culture practised by the school, teachers and parents is orientated towards curiosity, creativity, enthusiasm and a willingness to work, as well as towards the talents and potential of the individual pupils.
- New forms of learning gradually replace teacher-centred learning. Didactic materials support the teacher in designing lessons in a flexible and open way.
- Teachers are no longer knowledge experts, but learning experts.
- Measures are put in place to ensure that only the most suitable candidates become teachers, and high-quality initial training and lifelong in-service training provide the highest levels of qualification and motivation.
- Regular quality assessments ensure teachers' performance over the long term.
- There are accompanying measures available for teachers which provide assistance and support reflection and personnel development.
- Pupils actively and independently involve themselves in their education.
- There is a comprehensive support system for pupils who generally or temporarily have special needs.
- Schools welcome the involvement of external organisations and promote extensive competence networks.
- Learning is no longer physically restricted by the school building or limited to the school building.
- Parents fulfil their role as partners of the school, participate more actively in the learning process, and play a part in the education system.

EMPLOYABILITY AND LIFELONG LEARNING.

THE SKILLS OF THE FUTURE ARE A MOVING TARGET. REGARDLESS OF THE OCCUPATION A PERSON IS CURRENTLY EMPLOYED IN, EMPLOYMENT PROSPECTS CANNOT BE SAFEGUARDED WITHOUT IMPROVING QUALIFICATIONS AT THE SAME TIME.

Europe is pursuing the goal of becoming the most competitive economic area in the world – an economic area which is capable of combining sustained growth with more and better jobs and greater social cohesion. In the foreseeable future, the proportion of the working population over the age of 45 will rise from currently 28% to over 40%. There is thus an obvious need to not only address the education and training of young people but also to ensure permanent continuing education throughout people's lives.

Lifelong learning (LLL) is therefore the concept which enables people to remain actively engaged in the education process during their entire lives, from the pre-school phase to old age. LLL improves employability, social integration and personal development.

A strong basis is a prerequisite

The provision of a solid basis, cultural techniques and social competences is unquestionably a precondition for a successful LLL strategy and should be undisputed. In addition to the necessary processes of change already described for a future-orientated school system, an optimal preparation for primary school seems advisable, for example in the form of a pre-school year to develop linguistic, communicative and social skills.

New responsibilities

Those people who have the greatest need for further and continuing education and training – i.e. those who have been poorly educated and are working in unqualified jobs – usually have the lowest chances of obtaining it. This is probably also due to the changing political responsibilities for education and its financing in the course of their lives. If the education system is to be potential-orientated throughout a person's life, the link between a person's education path and their age or work biography is obsolete and will be replaced by learning-centred orientation. A comprehensive LLL perspective therefore also means that the state's responsibility to provide financing should not be orientated towards the age of the learners, but towards the type of educational qualification which is being pursued.

Related to the question of financing, the development and guarantee of a broad range – both with regard to content and their regional distribution – of adult education offers is necessary, as are related services such as career coaching and educational advice

"LEARNING IS A LIFELONG PROCESS. AND THE MOST PRESSING TASK IS TO TEACH PEOPLE HOW TO LEARN."

PETER F. DRUCKER

Transparent competences instead of an inflation of degrees

The Bologna Process has improved the comparability of the tertiary education sector and has given the university sector a new forward-looking dynamic. The harmonisation of the education system represents the successful achievement of one of the most important European agendas. One element of this process is the introduction of the three-stage higher education system. But degrees only represent one perspective in this context. More important is achieving high levels of permeability and transparency, since a potential-orientated education system enables individuals to have an education portfolio which is spread across their entire lives and allows them to change between the different forms of education according to clear rules, and to have qualifications recognised. It should be of little significance in this context whether they have been obtained at a university or from other recognised educational institutions, or for example in employment.

The role of universities

Strengthening universities in their active role in lifelong learning and making relevant course offers accessible for a larger number of students (also in new target groups) is an important precondition for the success of an LLL strategy.

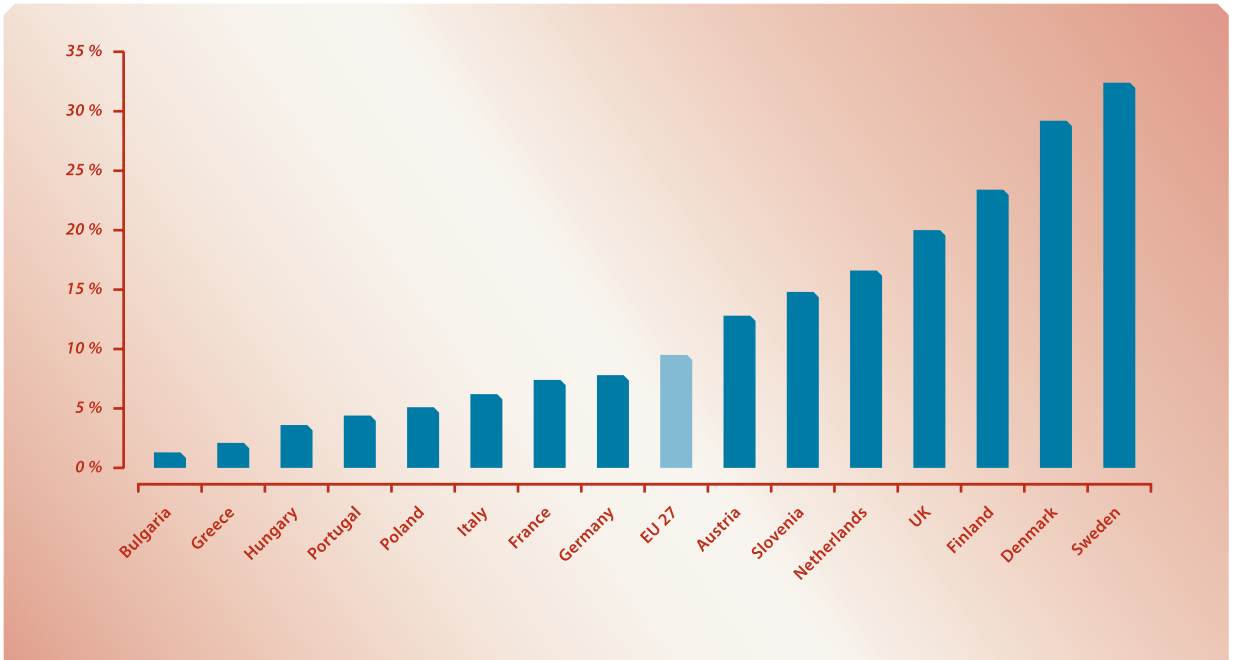
In the future, the transfer of competences can no longer take place solely via the young people who graduate from higher education. More people than in the past must have the opportunity to take part in education at an academic level; the courses offered therefore have to be designed in accordance with the needs of society.

"EUROPE'S HOPE IS NOT THE YOUNG BUT THE OLD: MORE THAN 50% OF HUMAN CAPITAL STEMS FROM ADULT EDUCATION AND LEARNING ON THE JOB."

THE LISBON COUNCIL

Lifelong learning – Percentage of the adult population aged 25 to 64 participating in education and training (EU LLL structural indicator).

Source: EuroStat



To achieve this, Europe's universities will have to evolve so that their service levels as well as their leadership and management capacity matches that of modern enterprises.

If universities are to play a stronger role in the field of LLL, increased flexibility in the timing of presence courses, expanded use of interactive online offerings and targeted lifelong services are required.

Balancing work and education

Understanding a shortage of skilled workers as a labour market problem is a short-term perspective; in fact it is an indicator of a weakness within the education system. Legislative and infrastructural measures to reconcile work, family and education are a prerequisite of a successful LLL strategy.

However, this is not just a mandate for the educational system but also for the economy. Employers contribute actively to ensure the skilling of their employees. Therefore it is crucial to derive a comprehensive people development approach from the aspect of employee potential, bringing corporate strategy and employee assessment in synch.

Beyond that companies are also required to engage in educational processes – such as in cooperation with universities and citizenship programmes.

CONSEQUENCES FOR THE FUTURE OF EDUCATION:

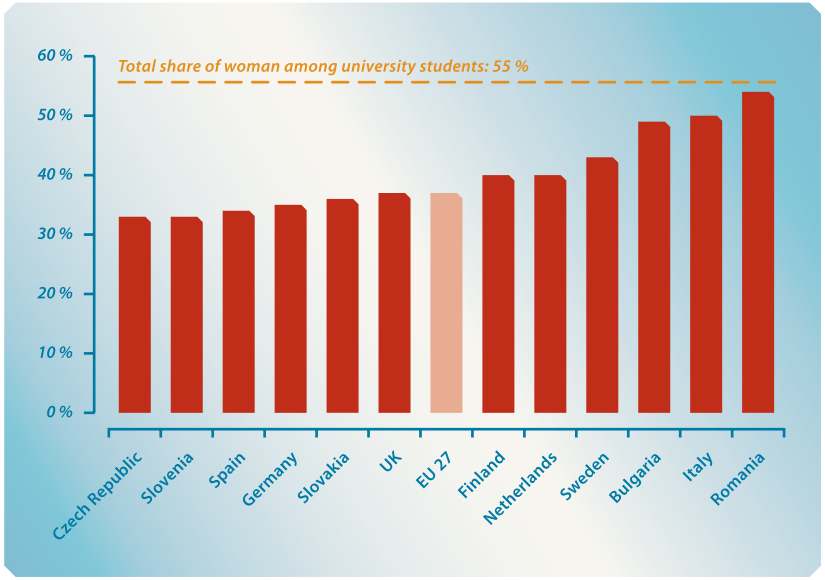
- The orientation of the education system towards the age of the learners is obsolete and has to be replaced by a focus on learning. This applies to access and transition, to learning and service offers, to teaching methods and financing models.
- The guaranteed provision of basic competences should be beyond dispute; to this end, better preparation for primary school is required.
- High-quality educational services such as careers advice should be provided alongside a wide range of adult education offers.
- A permeable qualifications framework permits changes and the recognition of different forms of education and training according to clear rules, and thus ensures a high level of interchangeability and transparency.
- Universities should be strengthened in their position in lifelong learning in order to enable more people to take advantage of education at an academic level. The cooperation between universities and educational institutions which are closer to the employment market is just as important as the extension of the service character of universities.
- The compatibility of family life, work and education is dependent upon legislative and infrastructure measures.
- Companies need to actively contribute towards ensuring that their staff obtain higher qualifications in the long-term via a potential-orientated personnel development policy.
- In order to broaden the basis for discussion and decision-making, companies should become even more involved in the education processes.

CROSSING BORDERS
AND BUILDING BRIDGES.

A PERSON'S ORIGIN STILL DEFINES THEIR FUTURE.

Potential-orientated education systems have the goal of promoting permeability and mobility in every respect. As challenging as this segment of education policy may be, it is not only decisive for economic success, but also for social cohesion. Active measures are therefore needed rather than taking up a defensive position. International learning requires intellectual and physical mobility. In the education sector, mobility should not only be interpreted in the sense of movement, but also in the sense of flexibility and permeability.

A fair education system is obliged to ensure that all individuals not only receive the formal opportunity of free access to education, but that this opportunity is in fact open and available to them. However, a potential-orientated education system has to go beyond this, as it not only makes the development of individual talents a priority, but also understands differences as a source of new inspiration. Innovation and creativity, the foundations of a knowledge-based society, originate precisely in those places where differences meet.



Share of women enrolled in science or computing among university students in selected European countries.

Source: EuroStat

Social mobility

Modern education systems have already eliminated a wide range of inequalities and have created opportunities for many talented people to advance. Nevertheless, educational statistics speak for themselves:

A person's family background has a great effect on their educational attainment and thus on their careers – criteria which are independent of a child's talents continue to have a major influence on decisions affecting the course of their education. The reasons for this lie on the one hand in the financial means of their parents, but also in the educational resources available. The goal of a potential-orientated education system must be to enable a maximum level of social mobility.

By means of suitable financial, organisational and structural support measures, the course of an individual's education should therefore be made dependent on their personal talents and not on their background.

"COMMITTED AND SKILLED WOMEN ARE NEEDED AT THE CUTTING EDGE OF TECHNOLOGICAL PROGRESS."

VIVIANE REDING

Migration as added value

The international labour market is becoming a reality, and thus an international education system also has to be realised. More than ever, it is a matter of not only developing linguistic competence, but above all cultural openness.

Intercultural learning – on the one hand, it is essential to prepare children, young people and adults for this international context as part of their education and training. This naturally includes learning foreign languages. As English has already gone beyond the status of a foreign language to become a global lingua franca, language competence should go beyond mastery of both the student's native language and English.

This also includes intercultural competences such as exploring personal identity and society, understanding diversity as part of our self-conception, and learning the skills of how to cooperate across cultural boundaries.

Ensuring integration – migrants from sections of society with low levels of education become dual victims of the lack of permeability in the education system: they have a socially-disadvantaged background and are culturally and linguistically different. Targeted support and advice for pupils and parents is therefore even more necessary and urgently required – because language courses alone are not enough to ensure integration. By contrast, the valuable skills of the intrinsic multilingual nature and cultural diversity of migrant families should be better utilised.

Avoiding dequalification – in addition to the aspect of equal opportunities, the question of whether migrants become a source of comparative advantages for society is directly linked to the quality of education and training.

What applies to the education system reveals itself later in the labour market, in the shape of dequalification figures, for example: migrants frequently tend to receive not only poorer education and training, but their existing education and training are also less well utilised.

Ranked on inclusiveness, access, effectiveness, attractiveness, age-range and responsiveness.

Source: Lisbon Council

TOP 10 UNIVERSITY SYSTEMS

1	Australia	6	Sweden
2	UK	7	Ireland
3	Denmark	8	Portugal
4	Finland	9	Italy
5	USA	10	France

Promoting mobility – in both directions

Competition for the people with the most talent has become international, and is no longer a search for those few with the greatest individual gifts, but a broadly-based global search among competitors. Promoting a potential-orientated education system should therefore include the extension of measures to encourage mobility, in both directions. On the one hand, targeting the low and selective willingness of domestic graduates to move abroad, and on the other hand increasing the attractiveness of the country as a location for top international researchers and academics.

In the so-called incoming area, in the provision of support for the influx of foreign students, active measures are necessary at home and abroad to make Europe more attractive as a preferred destination for international students. In the outgoing area, in the provision of support for the mobility of European students and trainees, comparable methods would be meaningful, not only in the tertiary sector but also in the schools system. Furthermore, it is precisely in this field that there is an opportunity to establish intensive cooperation between the education sector and companies so that mobility becomes the rule and not the exception.

Orientation towards potential instead of gender-specific education paths

Gender-independent educational and career models are in many cases still a vision and not reality: the proportion of women in the technologically-orientated education, research and employment markets is low. In order to influence the course of women's education and careers effectively, a comprehensive management of diversity starting in schools is required.

This would include increased communication and cultural measures and also measures for the specific reduction of inhibitions. An education system which is orientated towards life-long learning offers a particularly large number of opportunities to increase and promote the proportion of women in, for example, technology-related occupations in the course of a portfolio career – to this end, a contribution towards breaking down traditional role models is as important as real equality with regard to employment opportunities and earnings levels and the strengthening of measures which serve to improve the compatibility of family life and work – irrespective of gender.

"TWO REASONS FOR STUDENT MOBILITY: COMPETITIVENESS AND CITIZENSHIP."

EUROPEAN COMMISSION HIGH LEVEL EXPERT FORUM

CONSEQUENCES FOR THE FUTURE OF EDUCATION:

- A potential-orientated education system implements measures which actually make educational success solely dependent on personal talents, and not on a person's background or origin.
- By means of financial, organisational and structural support measures, a maximum level of permeability of the education system for the individual should be targeted and in this way the greatest possible social mobility achieved.
- The acquisition of language skills is of critical importance and should be established at all stages of the education system.
- Intercultural competences and targeted support within the framework of the integration of foreign pupils contribute towards better mutual understanding and the enrichment of learning.
- In order to promote the mobility of pupils and students both in the incoming and outgoing areas, extensive and coordinated measures within the framework of an education location initiative are required.
- The education system has to establish multi-layered diversity management in order that gender-independent education and career models can become reality.

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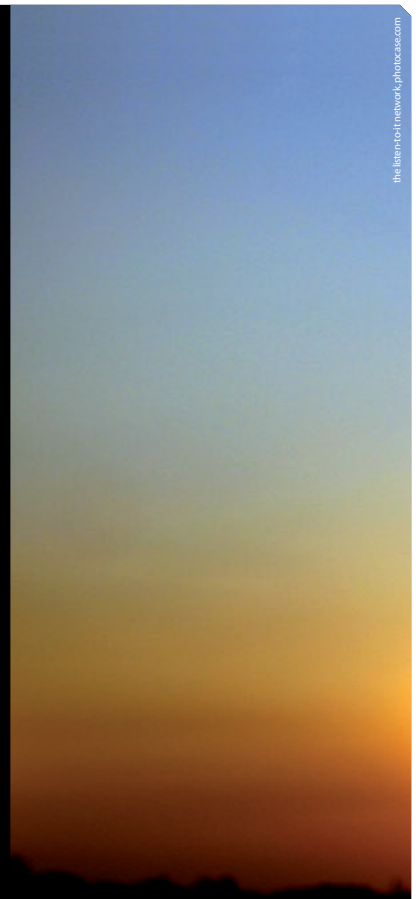

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