Schools of tomorrow:
Learning for ever-changing times

Digital technology is already having an impact on education even if in some parts of the EU schools are not covered by high-speed broadband or are under-resourced when it comes to hardware. While education systems are gradually adjusting to the way many people have digitalised their daily routines, technology has yet to unleash its full potential in the field.

Skills for today and tomorrow

People without access to digital tools are already at a disadvantage as they are cut off from a number of services. Yet not all regular users who feel confident about the way they operate their devices necessarily use them strategically or are able to sift information critically. This second group of individuals too are at a disadvantage, the question is if and how schools can fill in these gaps.

Teaching digital skills is also necessary to prepare young people for their future jobs, even if it can be assumed that technologies will continue to change and skills will need to be updated continually. Furthermore, as artificial intelligence becomes increasingly sophisticated, more jobs are being carried out by robots. In response, schools are being asked to develop young people's scientific and technical skills, creativity, innovative capacity and entrepreneurship so that new areas of economic activity can emerge. Policy makers are particularly keen to promote subjects such as science, technology, engineering and maths, especially among girls, who, in Europe, generally seem less interested. Currently these areas of study seem to lead to more and better-paid job prospects.

However, following this line of logic has led to the devaluation of arts and the humanities. Some criticise this as unbalanced given the importance of keeping our collective memories alive, and developing critical thinking and media literacy. Others point out that even if we ignore their intrinsic value, these subjects are still useful to develop students' creativity and ability to communicate, skills that prospective employers claim to appreciate. The cultural sector and hence cultural education have a similar role to play. However culture refers both to the production of aesthetic objects, which can apparently also be achieved through artificial intelligence, and to expressions of the human ability to reflect collectively. Therefore cultural education can assume different forms depending on the chosen focus.

Learning for life

On a different level, the development of vocational education too is deemed a useful way to enhance employability by making learning more relevant to the workplace and by engaging students who would otherwise be discouraged by a purely theoretical approach. Courses that are taught partly in class and partly in the workplace have the advantage of being broader as they combine an academic education with the transmission of job skills and experiences. However, both elements need to be of a sufficiently high quality for this type of education to succeed. Workplace education can also form a basis for citizenship education if students are helped to reflect on their 'on the job' experiences and to think more concretely about the type of society they want to be a part of. Teaching students how to direct their own learning could enable them to steer away from dead ends even if parts of their skills sets eventually fall in disuse and need to be replaced by new skills, as yet unknown.

It is easier for students to maintain a flexible approach to learning when certain policies are in place. For instance, if it is possible to ask a board to recognise knowledge or skills that were developed through experience or during courses that did not lead to formal certificates, people can start or complete a new course of studies more easily. Likewise, being able to transfer units of study from one country to another, or even being able to transfer from a vocational education institution to a higher education institution and vice versa could mean that a change in life circumstances or aspirations does not have to become an insurmountable barrier to continued learning.

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Schools and digital environments

Schools are facing increasing expectations regarding the type of education that they deliver and teachers need to master a wider range of competencies. Added to the traditional knowledge of subject matter, ways to teach it, assess learning and manage classroom dynamics, teachers now need the ability to teach digital skills, apply them to enhance the learning process and perhaps use digital tools to improve inclusion in a diverse class of learners. On the other hand, technology is also being used as a substitute for human teachers in teacherless classrooms. In some cases it is not even necessary to go to a specific place such as a school or a university but courses can be accessed from home. This can make life much easier for some people. It can also be more convenient, as students can log on to a session at the time that suits them, use the options available to adjust the pace and level of difficulty to their needs, and in some cases choose content depending on their interests. Education costs can be brought down as fewer classrooms and teachers are needed.

However, face to face interaction is still considered invaluable in education, as teachers are not expected to simply impart knowledge in a mechanical way; their role is also to encourage students to enter into debate, think critically and acquire social and emotional intelligence through interaction. The European Commission, for instance, suggests that blended learning, combining face-to-face and online learning, can enhance motivation and efficiency. The implication however is that improvements are due primarily to the introduction of learning technologies, which bring simulations, personalisation and a certain type of monitoring to the learning process.

The dilemma posed by educational technology

The European Commission is keen to put Europe on the digital map. It recently published a strategy to achieve this and has previously expressed its concern that there are not enough high-quality European online learning resources that are visible and accessible to the public. This means that European learners can be overly dependent on MOOCs and OERs, which are developed elsewhere. This can be problematic as the resulting spectrum of values and worldviews that are transmitted could lead to identity loss and disempowerment. European societies are made up of identity groups that intersect gender, class, race, ethnicity, beliefs, sexual orientation and disability. Some have fewer resources than others to develop their own online educational content without support from outside. The issue of costs is therefore relevant, even if they are not borne by the end user-learner. Linked to this issue, the European Commission insists that educational materials that are publicly funded should be publicly available and free. The question is whether these materials are representative enough. On the other hand, the private sector too provides free educational materials and in such cases it might be worthwhile checking what return is being sought.

The type of technology chosen for educational content has an impact on the learner's educational experience. Applications developed for universities are ready for use and easily accessible. Users do not need to be digital experts to use them, but these applications can limit what end users can do with them and commercial considerations can take precedence over users' needs. Teachers and students can develop and use open source digital tools to share content on the basis of their own research, teaching and learning needs. This gives them greater autonomy and is relatively cheap, but it requires greater personal investment from the users, who have to update their digital skills to develop their tools progressively.

European Parliament position

The European Parliament has expressed its position in a number of resolutions. It supports cross-border teaching through digital platforms to encourage the discovery and exchange of other points of view. It has pointed out the importance of education for preparing citizens for a knowledge based, digital economy (2015/2147 (INI)) and has insisted that Member States need to invest in digital education (2015/2354(INI)). It has acknowledged the importance of attracting girls and women to the areas of science, technology, engineering and maths (2014/2250(INI)), while defending the importance of developing critical thinking and a sense of European values (2015/2138(INI)).

This note has been prepared for the European Youth Event, taking place in Strasbourg in June 2018.