



Council of the
European Union

Brussels, 18 January 2018
(OR. en)

5459/18

EDUC 12
JEUN 2
SOC 20
EMPL 17
COMPET 29
TELECOM 18

COVER NOTE

From: Secretary-General of the European Commission,
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 17 January 2018

To: Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of
the European Union

No. Cion doc.: COM(2018) 22 final

Subject: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND
SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on the
Digital Education Action Plan

Delegations will find attached document COM(2018) 22 final.

Encl.: COM(2018) 22 final



Brussels, 17.1.2018
COM(2018) 22 final

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

on the Digital Education Action Plan

{SWD(2018) 12 final}

1. Introduction

Education and training are the best investments in Europe's future. They play a vital role in boosting growth, innovation and job creation. Europe's education and training systems need to give people the forward-looking knowledge, skills and competences they need to innovate and prosper. They also have an important role to play in creating a European identity, building on common values and cultures. Education should help empower young people to articulate and engage, participate and shape the future of a Europe characterised by democracy, solidarity and inclusion. Digital technology enriches learning in a variety of ways and offers learning opportunities, which must be accessible to all. It opens up access to a wealth of information and resources.

In the Rome Declaration of March 2017, EU Member States stressed their commitment to providing young people with the 'best education and training'. The October 2017 European Council called for training and education systems to be 'fit for the digital age'¹. At the November 2017 Gothenburg Summit, the Parliament, the Council and the Commission proclaimed the European Pillar of Social Rights, which enshrines the right to quality and inclusive education, training and life-long learning. The Communication '**Strengthening European Identity through Education and Culture**², the Commission's contribution to the EU Leader's Agenda discussion on education and culture at the Gothenburg Summit, sets out a vision for a European Education Area and announced a dedicated Digital Education Action Plan.

The Commission will host the first European Education Summit in January 2018 with a broad theme of 'Laying the foundations of the European Education Area: for an innovative, inclusive and values based education'. As part of delivering on the **New Skills Agenda for Europe**³, the Commission will propose a revised **European Reference Framework of Key Competences for Lifelong Learning**⁴ that sets out the knowledge, skills and attitudes people need for life, including digital competence. This Action Plan sets out how education and training systems can make **better use of innovation and digital technology** and **support the development of relevant digital competences** needed for life and work in an age of rapid digital change. The Action Plan has a specific focus on initial education and training systems and covers schools, vocational education and training (VET) and higher education.

2. Challenges and opportunities of digital transformation for education

Europe's digital transformation will accelerate with the rapid advance of new technologies like artificial intelligence, robotics, cloud computing and blockchain. Like previous major technological advances, digitisation affects how people live, interact, study and work. Some jobs will disappear, others will be replaced, new jobs will be created, many jobs and

¹ EUCO 14/17: European Council conclusions of 19 October 2017.

² COM(2017) 673: Strengthening European Identity through Education and Culture.

³ COM(2016) 381: A New Skills Agenda for Europe.

⁴ COM(2018) 24: Proposal for a Council Recommendation on Key Competences for Lifelong Learning.

industries will be transformed and new activities will emerge⁵. This makes investing in one's digital skills throughout life of the utmost importance.

While there are many opportunities arising from digital transformation, the biggest risk today is of a society ill-prepared for the future. If education is to be the backbone of growth and inclusion in the EU, a key task is preparing citizens to make the most of the opportunities and meet the challenges of a fast-moving, globalised and interconnected world.

Reform efforts continue every year, yet a persistent divide exists between and within EU Member States, in particular regarding digital infrastructure and skills, all of which hinders inclusive growth. Vulnerable groups are particularly affected by this situation. In addition, the lack of interest among girls to pursue studies in information and communication technologies (ICT) and science, technology, engineering and mathematics (STEM) remains a clear problem. This leads to lost social and economic opportunities and risks reinforcing gender inequality.

Education can benefit from opening classrooms, real-life experiences and projects, and from new learning tools, materials and open educational resources. Learners can be empowered by online collaboration. Access to and the use of digital technologies can help reduce the learning gap between students from high and low socioeconomic backgrounds. Personalised teaching can result in increased motivation by focusing on individual learners. However progress on integrating technology in education remains limited.

More than 80 % of young people in Europe use the internet for social activities⁶. Mobile access to the internet significantly increased over the last years⁷. But use of technology for educational purposes lags behind. Not all primary and secondary schools in the EU have broadband connections and not all educators have the competences and confidence to use digital tools to support their teaching⁸. A recent study showed that in 2015 an estimated 18 % of primary and secondary schools in the EU were not connected to broadband⁹.

Innovation in education systems, understood as the adoption of new services, technologies, competences by education organisations, can help to improve learning outcomes, enhance equity and improve efficiency¹⁰. It is most effective and sustainable when embraced by well-trained teachers and embedded in clear teaching goals. More needs to be done on how to best use digital means to reach education objectives.

Digital advances also bring new challenges for Europe's pupils, students and teachers. Algorithms used by social media sites and news portals can be powerful amplifiers of bias or

⁵ European Commission (2017): A concept paper on digitisation, employability and inclusiveness. The role of Europe, http://ec.europa.eu/newsroom/document.cfm?doc_id=44515.

⁶ Eurostat (2015): Being young in Europe today - digital world, http://ec.europa.eu/eurostat/statistics-explained/index.php/Being_young_in_Europe_today_-_digital_world.

⁷ Enders Analysis (2017): Children's changing video habits and implications for the content market.

⁸ European Commission (2013): Survey of Schools: ICT in Education Benchmarking Access, Use and Attitudes to Technology in Europe's Schools, <https://ec.europa.eu/digital-single-market/en/news/survey-schools-ict-education>

⁹ European Commission (2017): Satellite broadband for schools: Feasibility study, http://ec.europa.eu/newsroom/document.cfm?doc_id=46134.

¹⁰ OECD (2016): Innovating Education and Education for Innovation. The Power of Digital Technologies and Skills.

fake news, while data privacy has become a key concern in the digital society. Young people as well as adults are vulnerable to cyber bullying and harassment, predatory behaviour or disturbing online content. Everyday exposure to digital data driven largely by inscrutable algorithms creates clear risks and requires more than ever critical thinking and the ability to engage positively and competently in the digital environment. We face a constantly evolving need for media literacy and a wide mix of digital skills and competences including safety, security and privacy, but getting them to the wider population and more advanced professions and sectors remains a challenge.

3. The key role of EU-wide cooperation in scaling up innovation in EU Member States' education and training systems

EU-wide cooperation through exchange of best practice, peer learning and evidence sharing is a proven way to support EU Member States' education and training systems. Common frameworks help identify effective solutions while shared tools such as eTwinning increase efficiency and broaden impact. Innovative practices in education, in particular digital ones, are taking place across the EU. These take various forms and involve public, private and non-governmental actors. However, innovation in education systems is not an end in itself but a way to improve the quality and inclusiveness of education systems.

Evidence from the European Institute of Innovation and Technology (EIT) has shown that rather than waiting for change to happen, stakeholders are actively using digital opportunities to enhance teaching and learning¹¹. Innovative and entrepreneurial spirit in education and training should be fostered and supported with clear political willingness and effort to make innovation work for everybody. There is a need to share, discuss and promote and, where possible, scale up innovative practice. Concepts, tools, methods, processes, systemic thinking and design thinking need to be more accessible to education professionals who are usually not fully aware of what is tried and tested elsewhere, sometimes even next door.

EU-level data and evidence contribute to better transparency, while measuring progress and learning from peers across EU Member States. There are many studies and surveys linked to the use of technology in schools. However, most are either partial, covering, say, a specific area such as connectivity, or are geographically limited, covering a particular country. The main sources of benchmarking at global level are the European Commission's surveys including the 2013 ICT in Education survey and the annual survey on ICT usage by households and individuals, and the OECD's Programme for International Student Assessment (PISA) and Survey of Adult Skills (PIAAC) studies. There is a need for more evidence and a coherent approach towards data collection.

The education and training stakeholders are the key players in making innovations mainstream. Recent public consultations stressed the need for more dedicated EU action to support the adoption of innovative approaches and digital technologies in education, and the development of digital competences, including digital media literacy and digital safety and

¹¹ European Commission (2017) 351: Commission Staff Working Document on the interim evaluation of the European Institute of Innovation and Technology.

well-being¹². 68 % of respondents to the public consultation on Erasmus+ recognised that innovation is ‘extremely relevant’ for meeting the education sector’s needs. There is also a clear need to: (i) boost entrepreneurial competences and an entrepreneurial mind-set; and (ii) support digital entrepreneurship, which embraces new ventures and the transformation of existing businesses through new and emerging digital technologies.

The Digital Education Action Plan builds on the two Communications adopted in May 2017: *A renewed EU Agenda for Higher Education* and *School development and excellent teaching for a great start in life*¹³. It supports the work on the Digital Single Market¹⁴ and the New Skills Agenda for Europe.

The Action Plan takes further the call of the Reflection Paper on Harnessing Globalisation for society to become ‘increasingly mobile and digital as well as [...] providing the right blend of ‘soft skills’ as well as robust digital skills’. It called for education to help strengthen **resilience** in times of rapid technological change and globalisation. The Action Plan is aligned with the G-20 Digital Economy Ministerial Declaration in 2017 which shows a global recognition that ‘all forms of education and lifelong learning may need to be adjusted to take advantage of new digital technologies’.

These documents outline a number of relevant policy objectives, which remain more valid than ever. These include:

- support for high-quality education;
- improving its relevance;
- developing Europeans’ digital skills and making them more visible;
- boosting innovation and digital competences in all education institutions;
- opening up education systems.

4. Priorities for action

The Action Plan focuses on implementation and the need to stimulate, support and scale up purposeful use of digital and innovative education practices. It will draw on a wide range of education and training stakeholders including business, research, NGOs, as well as, non-formal education where relevant. It has **three priorities**:

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|---|
| <ul style="list-style-type: none">• <i>1: Making better use of digital technology for teaching and learning</i>• <i>2: Developing relevant digital competences and skills for the digital transformation</i>• <i>3: Improving education through better data analysis and foresight</i> |
|---|

For each priority, the Action Plan sets out measures to help EU Member States address the challenges. These include: (i) providing tools to help educators and trainers make better use of

¹² Public consultations for the Review of the Key Competences for Lifelong Learning and the Renewed EU Agenda for the Modernisation of Higher Education.

¹³ COM (2017) 248: School development and excellent teaching for a great start in life and COM (2017) 247: A renewed higher education strategy.

¹⁴ COM(2015) 192: A Digital Single Market Strategy for Europe.

technology including better internet connectivity; (ii) targeted action to develop relevant digital competences; (iii) reinforced and new efforts to improve education via better evidence and analysis. The Action Plan does not prejudge the forthcoming Commission proposal on the new Multiannual Financial Framework and the future funding programmes.

4.1. Priority 1: Making better use of digital technology for teaching and learning

Our society and economy are increasingly pervaded by digital technology. Technology in its various forms is a large part of our working environment and our lifestyles. However, there is a difference between using digital technology in everyday life and in education. Digital technology has huge, largely untapped potential for improving education.

A key part of digital education is **ensuring equity and quality of access and infrastructure**. The digital divide has many dimensions, but improving access to technology and connectivity for all children in education must be a starting point for reducing inequality and exclusion. We also need to address the varying quality of access and infrastructure, as high quality offers a more innovative and fulfilling learning experience.

Innovation in education and training depends greatly on empowering and connecting educators. Erasmus+ achieves this through peer learning. New expert-led training and practitioner workshops for both policymakers and educators, including the Platform of European Associations of VET Providers, will further strengthen connectedness by developing specific content in multiple languages and by utilising key EU platforms such as School Education Gateway and Teacher Academy. Blended mobility will be further promoted with new opportunities in Erasmus+ to support both online and face-to-face learning and exchange for pupils in different countries.

Digital readiness in education requires knowhow and involves adaptation and change. Schools and training institutions in Europe are diverse, with equipment, teacher skills and approaches to technology use varying considerably. There are pockets of innovation in digital education throughout Europe. Yet innovative policies and practices need support to be scaled up.

To bring innovation and technology to the classroom, educators need the right environment, infrastructure, devices and leadership support. Making digital technology benefit students and staff requires an approach that combines teacher training, curricula and educational materials that are fit for digitally-supported teaching models. This organisation-wide approach to implementing digital technologies for teaching and learning is reflected in the SELFIE self-assessment tool, which has been piloted in schools in 14 countries.

Mobility is an important part of education and digital technology is key for improving it further. Erasmus+ projects such as the European Student eCard and Erasmus without

Papers will be scaled up and integrated with the work on authentication in projects under the Connecting Europe Facility¹⁵. The aims are to:

- enable students to identify themselves in a trusted manner, in line with the once-only principle¹⁶;
- digitally connect higher education institutions' information systems;
- allow secure exchange and verification of student data and academic records;
- reduce administrative procedures;
- enable access to services students are entitled to when arriving in the host country.

The EU Student eCard initiative aims to improve the quality of student mobility in Europe. By 2025 all students in Erasmus+ mobility should be able to have their national identity and student status recognised automatically across EU Member States, including access to campus services when arriving abroad (e.g. course materials, enrolment services, libraries). 20 000 pupils and 4 000 teachers will receive support for school exchanges to complement and build on ongoing digital project work and collaboration.

The way forward:

1. **Tackle the connectivity divide** between EU Member States regarding the uptake of very high capacity broadband in all European schools by: (i) raising awareness of the benefits for schools and available funding opportunities¹⁷; (ii) supporting connectivity i.e. through a voucher scheme focusing on disadvantaged areas and ensuring full implementation of the toolkit for rural areas¹⁸; (iii) publishing data about progress.
2. Support **the digital readiness of both general and vocational schools** by strengthening their digital capacity and by making the SELFIE self-assessment tool reach one million teachers, trainers and learners by end of 2019 in all EU Member States and the Western Balkans; promote a mentoring scheme at national/regional level, supported by an EU-level awareness-raising platform.
3. Provide a framework for issuing **digitally-certified qualifications** and validating digitally-acquired skills that are trusted, multilingual and can be stored in professional profiles (CVs) such as Europass. The framework will be fully aligned with the European, Qualifications Framework for Lifelong Learning (EQF) and the European Classification of Skills, Competences, Qualifications and Occupations (ESCO).

¹⁵ Connecting Europe Facility, <https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/CEF+Digital+Home>.

¹⁶ European Commission (2017), EU-wide digital Once-Only Principle, <https://ec.europa.eu/digital-single-market/en/news/eu-wide-digital-once-only-principle-citizens-and-businesses-policy-options-and-their-impacts>.

¹⁷ Including via the recently created EU network of Broadband Competence Offices.

¹⁸ European Commission (2017): European Commission joins forces to help bringing more broadband in rural areas, <https://ec.europa.eu/digital-single-market/en/news/european-commission-joins-forces-help-bringing-more-broadband-rural-areas>.

4.2. Priority 2: Developing relevant digital skills and competences for the digital transformation

To function and thrive in the digital society and overcome digital risks, citizens need competences that help them meet the challenges and seize the opportunities of digital transformation. Digital skills are a basic skill alongside literacy and numeracy, needed in all walks of life, yet too many citizens have limited or outdated digital competences. There is a need to go ‘wide’ as all citizens need to have an understanding, at different levels, of the different aspects of digital competence, and there is a need to go ‘deep’ for more specialised skills in informatics required in the ICT profession.

Digital competence is a part of the revised European Reference Framework of Key Competences for Lifelong Learning which all citizens should have. Digital competence means the confident and critical use of digital technology and covers the knowledge, skills and attitudes that all citizens need in a rapidly evolving digital society. The European Digital Competence Framework for Citizens¹⁹ describes digital competence in five areas: information and data literacy; communication and collaboration; digital content and creation; safety and well-being; and problem-solving. The recently published European Digital Competence Framework for Educators²⁰ offers educators guidance in developing digital competence models. Taken together, these frameworks offer an in-depth and usable reference model to systematically promote digital competence.

The digital revolution will continue to dramatically change the way Europeans live, work and study. While this offers tremendous opportunities, there are also significant risks if digital competences are not developed. As part of the Skills Agenda, the Upskilling Pathways initiative recommends that Member States introduce coherent provision to improve the digital (and literacy and numeracy) skills of the many millions of low-skilled or low-qualified adults - the group in most urgent need. Moreover, an estimated 90 % of jobs nowadays require some level of digital skills²¹ and one significant threat is that Europe will lose its most competitive edge — a highly-skilled and educated workforce — should we fail to teach digital competences to Europeans of all ages.

Acquiring digital skills needs to start at early age and carry on throughout life. This can happen as part of educational curricula or through after-school classes. Young Europeans are avid users of the web, apps and games but they also need to learn about underlying structures and basic algorithms, and become digital creators and leaders. An example of a successful grassroots movement is the EU codeweek.eu initiative, which reached nearly a million people around the world in 2016. Based on this experience, the initiative will be scaled up to encourage all schools in Europe to participate in **EU Code Week** by collaborating with

¹⁹ European Commission (2016): Digital Competence Framework for Citizens, <https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework>.

²⁰ European Commission (2017): Digital Competence Framework for Educators, <https://ec.europa.eu/jrc/en/digcompedu>.

²¹ European Commission (2016): ICT for work: Digital skills in the work place, <https://ec.europa.eu/digital-single-market/en/news/ict-work-digital-skills-workplace>.

authorities in EU Member States, Code Week ambassadors, the eTwinning network, the Digital Skills and Jobs Coalition²² and related actions.

Greater focus must be put on effectively tackling the challenges digital transformation creates for online safety and cyber hygiene. We need to strengthen children's and young people's **critical thinking and media literacy**, so they can judge and overcome the ever-present threats of fake news, cyber bullying, radicalisation, cybersecurity threats and fraud. Even the youngest children are in daily contact with digital technologies yet do not understand the risks, and parents worry about inappropriate content and risks but do not know how to address them. In parallel, Europol reports a growing rate of cyberattacks, data breaches and other illegal online activities. In its September Communication on cybersecurity²³ the Commission called on EU Member States to pledge to include cybersecurity in academic and vocational training curricula.

Closing the gender gap through digital and entrepreneurship education is vital if Europe is to fully embrace the benefits of the digital revolution. While both girls and boys have similar levels of interest and competence in digital technologies, fewer girls go on to develop this interest in their studies or for their career. Girls and young women require positive examples, role models and support to overcome stereotypes and realise that they too can embark on a fulfilling and successful career in ICT and STEM. Increasing female participation in these careers will help unleash Europe's digital potential and ensure that women take an equal place in shaping the digital world²⁴. In the EU fewer than one in five ICT professionals are female²⁵.

Developing high-skilled ICT professionals is critical for competitiveness²⁶. Advanced **digital skills are important for supporting the next generation of analysts, researchers and innovators**. Deep digital expertise is necessary for many professions, not just those working in ICT. For example, medical doctors analysing trends in the spread of illnesses need both medical expertise and a wide range of advanced digital competences. More generally, today three out of four researchers have no training in open access or open data management. Citizen-centred research and innovation focused on solving societal challenges should make more use of open data and collaborative digital technology tools and methods.

²² For more information on the Digital Skills and Jobs Coalition see <https://ec.europa.eu/digital-single-market/en/digital-skills-jobs-coalition>.

²³ JOIN 2017 (450): Joint Communication of the European Commission and European External Action Service: Resilience, Deterrence and Defence: Building strong cybersecurity for the EU.

²⁴ See SWD, point 2.3.

²⁵ 83.9 % of employed ICT specialists are male, 16.1% female (Eurostat, 2015).

²⁶ The European e-Competence Framework (e-CF) is a European standard and a reference for the competences required by ICT professionals. It is developed and maintained by the European Committee for Standardisation (CEN).

The way forward:

4. Create a **Europe-wide platform for digital higher education** and enhanced cooperation. The new platform, supported by Erasmus+, will serve as a one-stop - shop and offer: online learning, blended mobility, virtual campuses and exchange of best practices among higher education institutions at all levels (students, researchers, educators).
5. Strengthen **open science and citizen science** in Europe by piloting dedicated training, including continuous professional development courses on open science in higher education institutions at all levels (students, researchers, educators).
6. Bring **coding classes to all schools** in Europe, including by increasing schools' participation in EU Code Week.
7. Tackle the challenges of digital transformation by launching: (i) an **EU-wide awareness-raising campaign** targeting educators, parents and learners to foster online safety, cyber hygiene and media literacy; and (ii) a **cyber-security teaching initiative** building on the Digital Competence Framework for Citizens, to empower people to use technology confidently and responsibly.
8. Support measures to further decrease the **gender gap** in the technology and entrepreneurial sector **by promoting digital and entrepreneurial competences among girls**; mobilise stakeholders (companies, NGOs) to equip girls with digital skills and inspirational models, building on the Digital Competence Framework for Citizens and the Entrepreneurship Competence Framework.

4.3. Priority 3: Improving education systems through better data analysis and foresight

Data is vital for education and training. Using technology creates data that can be exploited. The challenge is how to use this data to develop better insight and foresight that can improve education systems or solve current educational challenges. As technological trends like artificial intelligence, automation and robotics are global, EU-level cooperation can provide useful guidance for all EU Member States and help initiate collaboration and exchange on possible responses to emerging challenges that cross borders. Data collection through surveys and studies on digitisation in education and training institutions and digital technologies in learning are vital inputs to policymaking. However, comparable comprehensive data on disseminating technologies in educational systems is often scarce, partial or not up-to-date. This calls for more efficient and effective data collection and coordination at EU and international (OECD) level.

Data also helps to identify and address needs for evidence-based required policy measures, but comparative data especially is rarely used. Initiatives on digital education are seldom compared with other initiatives and available data, so little is known about which practices work in general or can benefit specific societal and education systems. Big data and learning analytics offer new opportunities to capture, analyse and use data to improve education. There

are many initiatives in different EU Member States to move from a ‘one-size-fits-all’ teaching approach in subjects like mathematics to more personalised learning with scope for tailoring content to individual pupils’ needs²⁷. Learning analytics can improve personalised learning²⁸, e.g. by identifying at-risk students, and can evaluate the impact of different teaching strategies. However, since learning analytics is still in its infancy in Europe, we need more pilot schemes to research and experiment in this field²⁹.

User-driven innovation is key for early adoption of innovation solutions that tackle educational challenges. Education data and trends are generally collected in a top-down way, led by international organisations and governments. The user’s perspective is often not sufficiently considered, which could limit the possible solutions to a need. This is especially true in an age of user-driven innovation where individuals develop the solutions for problems they face. In this context, the Commission will explore ways of promoting **citizen engagement** and **user-driven innovation** through an annual EU-wide Education Hackathon to develop innovation solutions for key education and training challenges.

Foresight: from lagging behind to anticipating change. Education and training institutions are trying to catch up with technological developments. Foresight for education and training can reverse this trend and engage educators (from policymakers to practitioners) to lead upcoming change.

The way forward:

9. *Build evidence on the uptake of ICT and digital skills in schools, by publishing a **reference study** assessing progress in mainstreaming ICT in education. It will cover the availability and usage of ICT infrastructure and digital tools and levels of digital skills. Together with the next round of the PIAAC survey, the results may feed into an update of the Digital Competence Framework³⁰. The Commission will also work with the OECD on the development of a new module in PISA on the use of technology in education, as well as explore the relevance and feasibility of proposing new Council benchmarks for digital competences and entrepreneurship.*
10. *Launch **artificial intelligence** and **learning analytics** pilots in education as of 2018 to make better use of the huge amount of data now available and thus help address specific problems and improve implementation and monitoring of education policy; develop relevant toolkit and guidance for Member States.*
11. ***Initiate strategic foresight** on key trends arising from digital transformation for the future of education systems, in close cooperation with Member State experts and*

²⁷ In Luxembourg, for instance, the Ministry of National Education, Children and Youth, in support of the ‘[Digital Lëtzebuerg](#)’ strategy, launched the MathemaTIC national digital transformational project, which aims to enable students to interact with research-backed, engaging resources in mathematics that are tailored to students’ specific needs and aligned to learning outcomes in the curriculum.

²⁸ COM(2013) 654: Opening up Education: Innovative teaching and learning for all through new Technologies and Open Educational Resources.

²⁹ Ferguson, R., Brasher, A., Clow, D., Cooper, A., Hillaire, G., Mittelmeier, J., Rienties, B., Ullmann, T., Vuorikari, R. (2016). *Research Evidence on the Use of Learning Analytics — Implications for Education Policy*. In: R. Vuorikari, J. Castaño Muñoz (Eds.). Joint Research Centre Science for Policy Report; EUR 28294 EN.

³⁰ See footnotes 19 and 20.

making use of existing³¹ and future channels of EU-wide cooperation on education and training.

5. Conclusions and outlook

The Action Plan outlines European initiatives that the Commission, in partnership with Member States, stakeholders and society, will implement by the end of 2020. It forms part of the Commission's broader ambition towards a European Education Area, complementing the Recommendations on Common Values and Key Competences. The Action Plan will be implemented as part of the European cooperation in education and training (ET2020) process. It will also support the European Semester, which is a key driver for reform through the education-and training related country-specific recommendations.

The Commission will launch dialogue with relevant stakeholders on how to implement the proposed actions. In the follow-up to implementation, the Commission will work with the ET2020 Group on Digital Skills and Competences. The Commission will also draw policy lessons from how the actions are implemented. This will contribute to the emerging discussion on future European cooperation in education and training.

³¹ Such as the ET 2020 working groups and big data skills needs and trends as part of the Europass Framework.