



THE EUROPEAN DIGITAL EDUCATION PLAN 2018-20

Tecnologie and Soft Skills:
la nuova frontiera della mobilità internazionale



NAME: ALESSANDRO BROLPITO - ETF
DATE: 14 /11/2018 - GENOVA



EUROPEAN TRAINING FOUNDATION

Agency of the European Union



ETF Mission

- To help transition and developing countries to harness the potential of their human capital through the reform of education, training and labour market systems in the context of the EU's external relations policy

ETF Vision

- VET is a driver for smart, sustainable and inclusive growth

EUROPEAN TRAINING FOUNDATION

Agency of the European Union

South Eastern Europe

Albania, Bosnia and Herzegovina, Kosovo*, former Yugoslav Republic of Macedonia, Montenegro, Serbia
Turkey

Southern and Eastern Mediterranean

Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine**, Syria, Tunisia and Israel

Eastern Partnership:

Armenia, Azerbaijan, Belarus, Georgia, Republic of Moldova, Ukraine

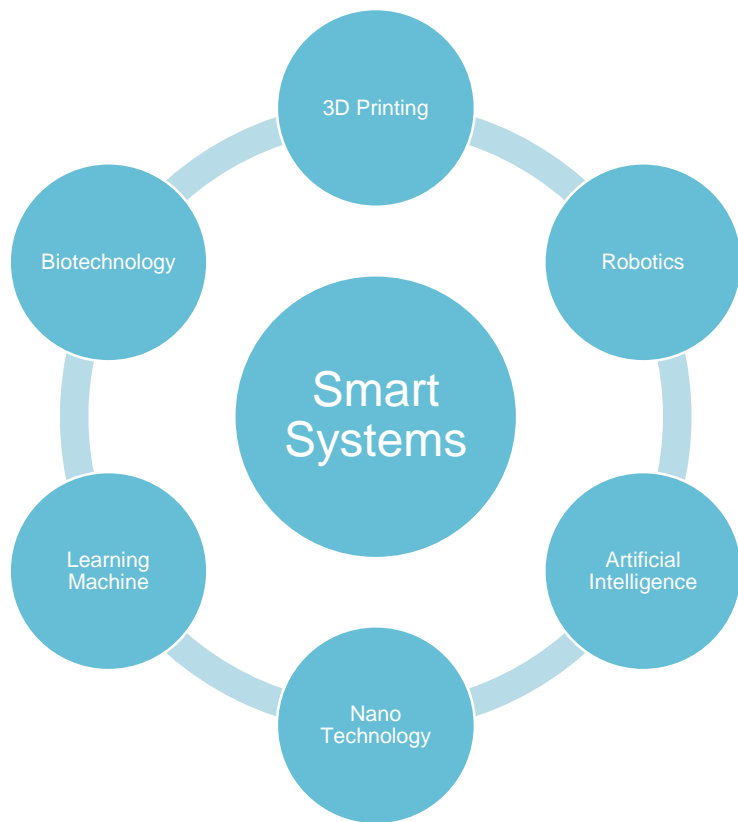
Central Asia:

Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan

Russia

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.

** This designation shall not be construed as recognition of the State of Palestine and is without prejudice to the individual positions of the EU Member States on this issue.



Digital Transformation

- do not 'happen'
- no techno-determinism
- are not neutral

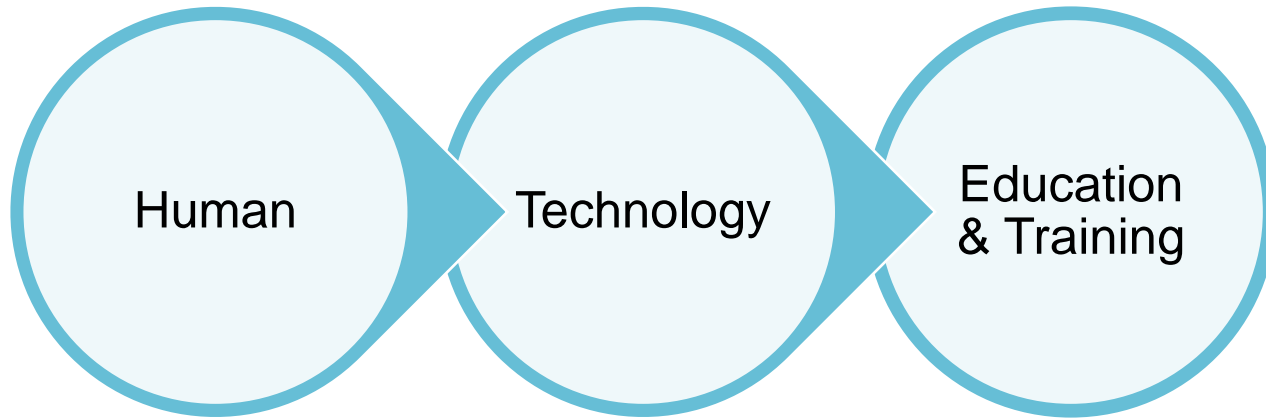
Technologies produces consequences (good and bad)

It will depend by what humans (we) will do



The Digital Age offers new and fundamental **solutions** to Education and Training

The Digital Age creates new and fundamental **threats** to Education and Training



We need to be digitally competent

THE ROLE OF EUROPE

2018-2020





Role of the European Union in Education - The Lisbon Treaty - Article 165

L'Unione contribuisce allo sviluppo di un'istruzione di qualità incentivando la cooperazione tra Stati membri e, se necessario, sostenendo ed integrando la loro azione nel pieno rispetto della responsabilità degli Stati membri per quanto riguarda il contenuto dell'insegnamento e l'organizzazione del sistema di istruzione, nonché delle loro diversità culturali e linguistiche



Mobility Scoreboard

The European Commission's Mobility Scoreboard has been developed by Eurydice (higher education) and Cedefop (initial vocational education and training - IVET), providing a framework for **monitoring progress** made by European countries in creating a positive environment supporting **learner mobility**. Indicators aim to help countries identify actions to remove obstacles to learner mobility.



Eurodesk Survey

EURODESK has launched a survey that aims to create a better understanding of how young people engage with different channels and structures in society to learn about **international mobility opportunities**.

It explores through which channels they prefer to **receive information and what kind of support** they find valuable in motivating and guiding them to take the step and go abroad.

It targets young people and young adults between the ages of 13 and 35.

The survey will be open until **November 25th**.
<https://eurodesk.eu/2018/09/25/survey>

EUROPEAN COMMISSION POLICY FOR EDUCATION AND TRAINING

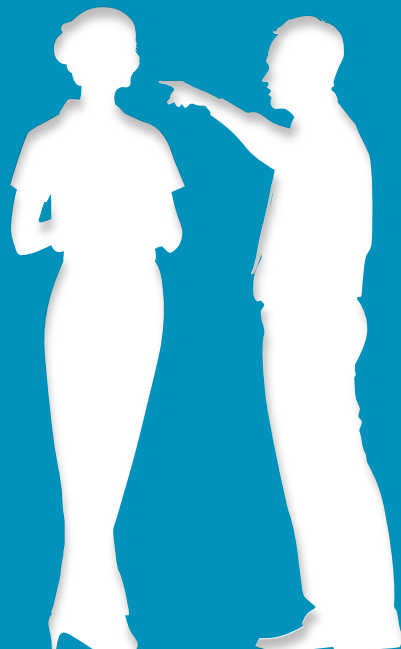


Working Group on Digital Skills, Competence, and Digital Learning
Reference Frameworks, Policy Guidelines and Recommendations



THE DIGITAL EDUCATION ACTION PLAN FOR EUROPE

2018-2020



EU DIGITAL EDUCATION ACTION PLAN

Priority 1

Making better use of digital technology for teaching and learning



Priority 2

Developing relevant digital competences and skills for the digital transformation



Priority 3

Improving education through better data analysis and foresight

2018-20 - 3 priorities - 11 actions
to help EU Member States meet the challenges and opportunities
of education in the digital age



DIGITAL COMPETENCES AND TECHNOLOGY IN EDUCATION

MAKING BETTER USE OF DIGITAL TECHNOLOGY FOR TEACHING AND LEARNING

- [Action 1 - Connectivity in Schools](#) - by 2025 all schools should have broadband connection
- [Action 2 - SELFIE self-reflection tool & mentoring scheme for schools](#) – to improve the digital readiness of schools
- [Action 3 - Digitally-Signed Qualifications](#) –standards for e-documents issued by education and training institutions to confirm the awarding of a qualification

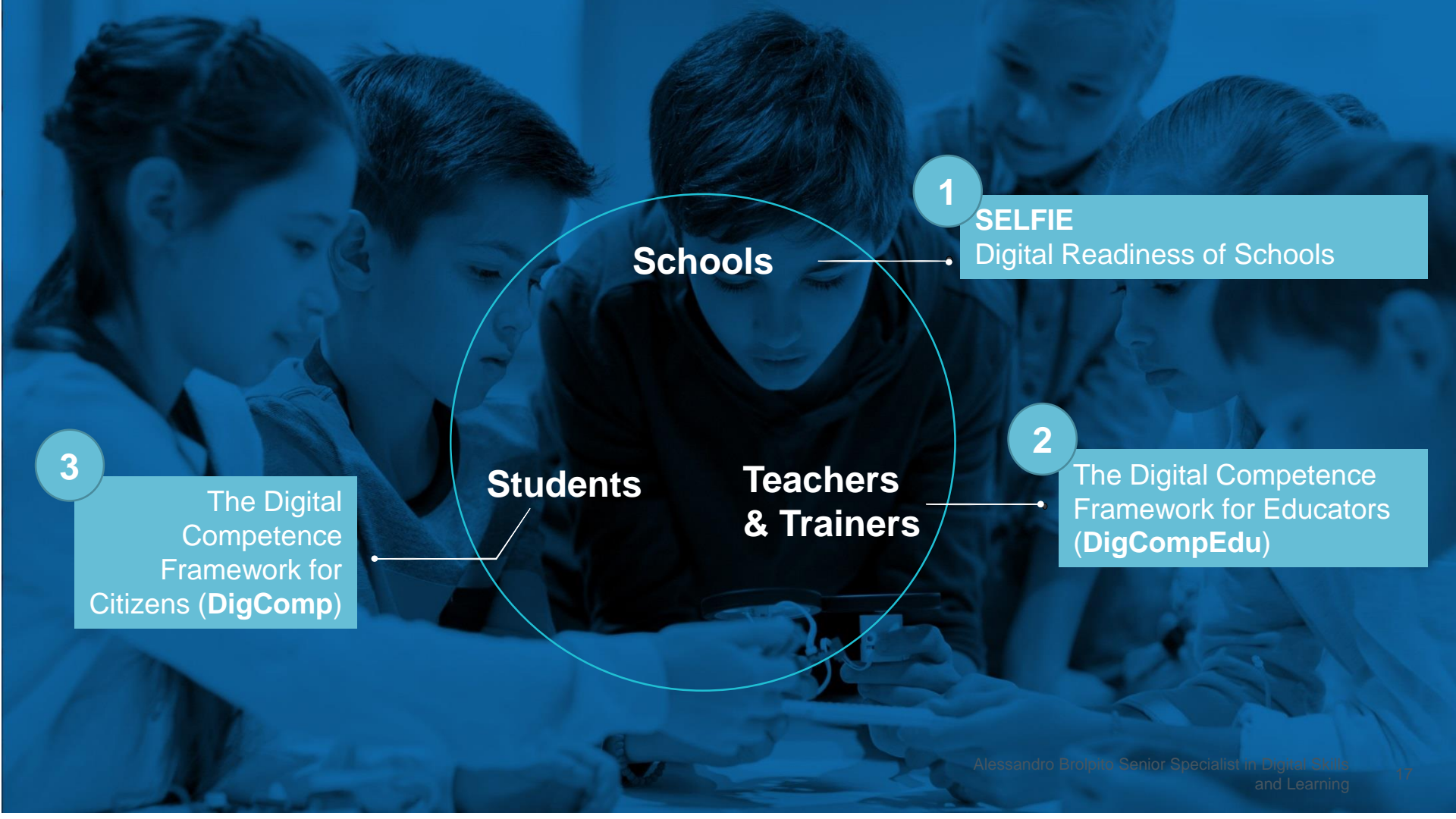
DEVELOPING DIGITAL COMPETENCES AND SKILLS

- [Action 4 - Higher Education Hub](#) - EU-wide online platform will be created to support Higher Education institutions (HEIs) in using digital technologies
- [Action 5 - Open Science Skills](#) - open science skills in higher education
- [Action 6 - EU Code Week in schools](#) - promotion of computational thinking - 6-21 October 2018 code week - <https://codeweek.eu/>
- [Action 7 - Cybersecurity in Education](#) - raise awareness of online safety issues at home, school, work and in the community (Safer Internet Day)
- [Action 8 - Training in digital and entrepreneurial skills for girls](#) - For every 1000 women, only 24 graduate in ICT-related fields.

IMPROVING EDUCATION THROUGH BETTER DATA ANALYSIS AND FORESIGHT

- [Action 9 - Studies on ICT in education](#) - ESSIE2 survey and study will measure progress in the use of ICT in education in EU + with the round of PISA (OCED)
- [Action 10 - Artificial Intelligence and analytics](#) - What skills will be needed on the labour market in the coming years (Big Data + AI)?
- [Action 11 - Strategic foresight](#) - stimulate a debate at European level on the future of education – e.g. EU-wide education hackathon





1

SELFIE

Digital Readiness of Schools

Schools

2

The Digital Competence Framework for Educators (**DigCompEdu**)

Teachers & Trainers

Students

3

The Digital Competence Framework for Citizens (**DigComp**)

PRIORITY 1

Making better use of digital technology for teaching and learning



ACTION 2 - SELFIE SELF-REFLECTION TOOL & MENTORING SCHEME FOR SCHOOLS

SELFIE is a tool designed to:

- **Help schools embed digital technologies** into teaching, learning and student assessment.
- **Reflect and plan** at school level on what's working well, where improvement is needed and what the priorities should be in the use of digital technologies
- **Involves the whole school community** – school leaders, teachers and students

Currently available in the **24 official languages**, more languages to be added over time.

It is an initiative of the **European Commission with ETF, Cedefop and Unesco's institute for information technologies** in education as partner institutions



SELFIE

Home How SELFIE works About SELFIE Testimonials **News** Contact

SELFIE news

Read more about how SELFIE is being developed and meet some of the schools and countries who are using the tool

Theme

Please select an option

Year

Please select an option

Order by

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SELFIE Multilingual portal



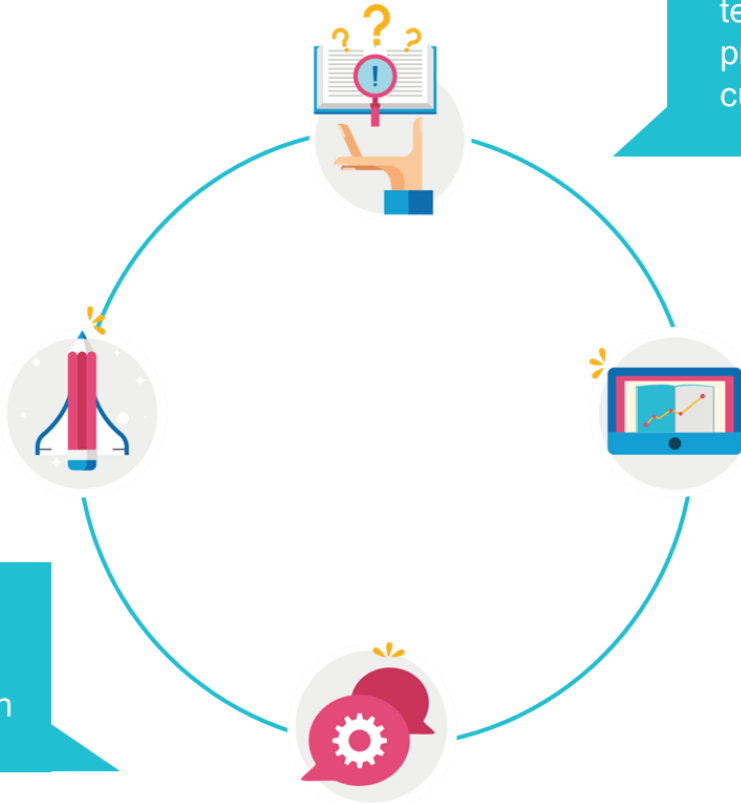
https://ec.europa.eu/education/schools-go-digital_it

The plan is then implemented

School leaders, teachers and students provide input via customised surveys.

A SELFIE report is generated from the replies

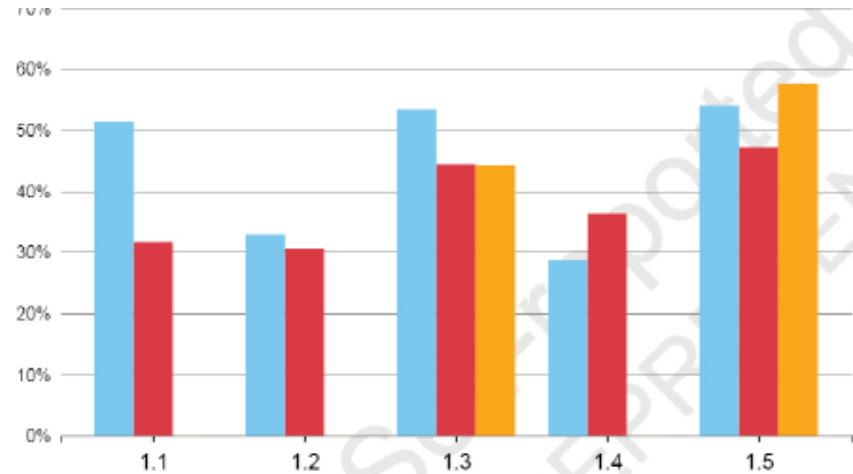
The report can inform dialogue leading to a school improvement plan



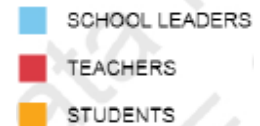
EXAMPLE FOR “LEADERSHIP & GOVERNANCE”

ITEMS:

- 1.1 THE SCHOOL HAS A DIGITAL PLAN
- 1.2 PROGRESS ARE REVIEWED
- 1.3 PROS AND CONS ARE OPENLY DISCUSSED
- 1.4 TEACHERS CHOOSE THE TECHNOLOGIES THEY NEED
- 1.5 DIGITAL TECHNOLOGIES ARE USED TO MAKE LEARNING MORE EFFECTIVE



SCHOOL REPORT



PRIORITY 2

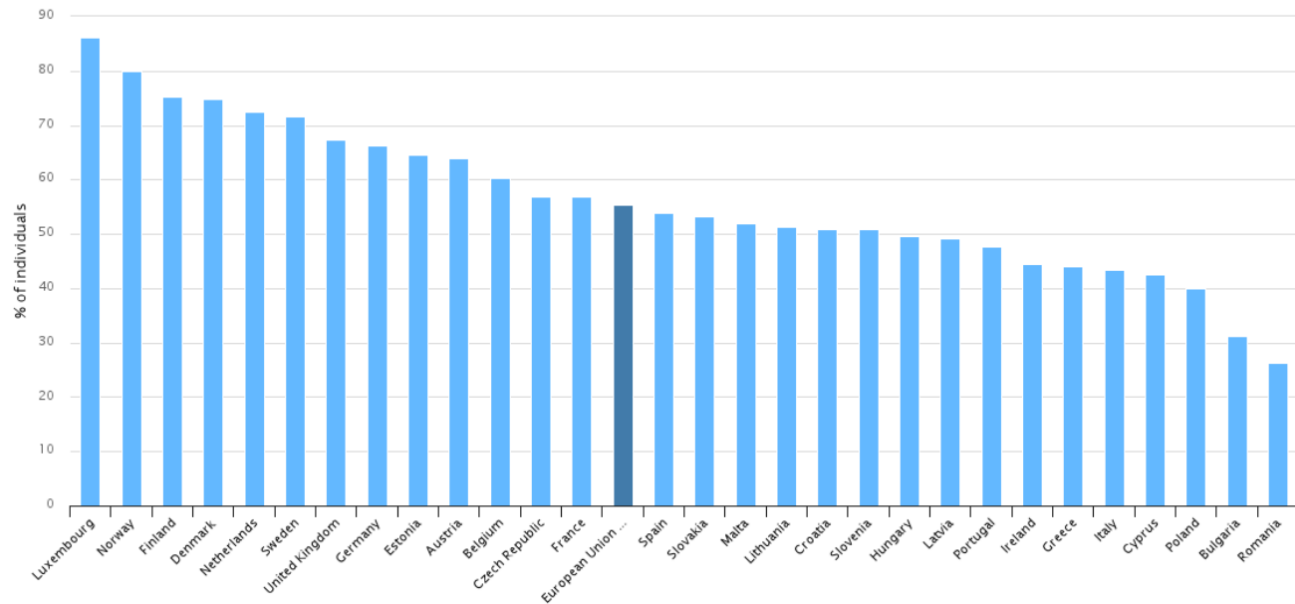
**Developing relevant digital competences and skills for
the digital transformation**



PRIORITY 2 - DEVELOPING RELEVANT DIGITAL SKILLS AND COMPETENCES FOR DIGITAL TRANSFORMATION

Individuals with basic or above basic digital skills

Year:2015



European Commission, Digital Scoreboard



90% of future jobs will require digital skills.



44% of Europeans lack basic digital skills.



Less than 20% of ICT professionals are female.



Digital wellbeing is threatened by misinformation, cyber bullying, data privacy issues.

The European e-Competence Framework
ICT professions – ‘consumer’ and ‘producers’
(e-CF 2.0)

ICT
Professions
(advanced &
highly specialised)

The European Skills & Competences,
Qualifications and Occupations
ESCO database

Job-specific Digital Skills
(occupational standards)

The European Digital
Competence Framework
for Citizens/learners
(DigComp 2.1)

Digital Competence
(basic skills, knowledge, attitude)

The European Digital Competence
Framework for Educators
(DigCompEdu 1.0)

Digital Skills and Competence

THE DIGITAL COMPETENCE FRAMEWORK FOR CITIZENS (DIGCOMP 2.1)

Information and data Literacy

Communication and collaboration

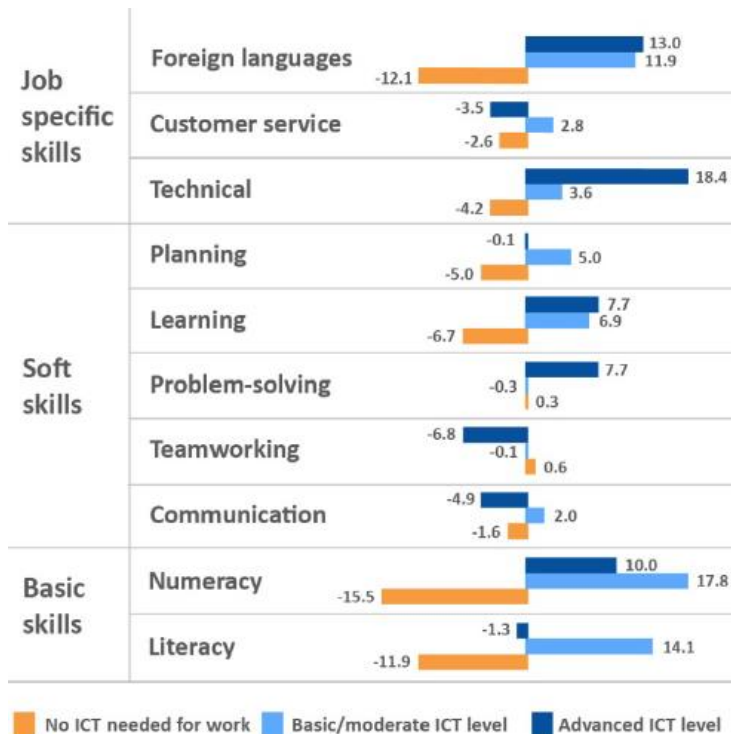
Digital content creation

Safety

Problem solving

5 COMPETENCE AREAS
21 COMPETENCES
8 PROFICIENCY LEVELS

Confident, critical and creative
use of ICT to achieve goals
related to work, employability,
learning, leisure, inclusion and/or
participation in society

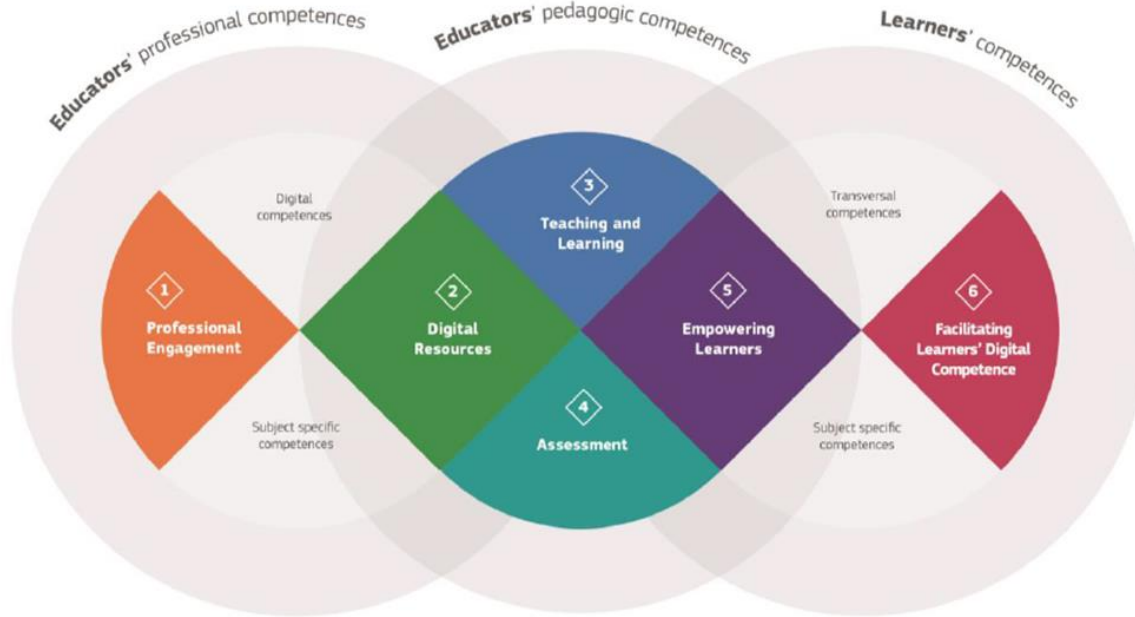


Implications of the DT on skills

- Lack of DSC, already now
- Demand for DSC on the rise
- Positive correlation DSC - other skills

Complementarity between digital and non-digital skills needed for work, adult employees, EU-28 (estimated)

THE DIGITAL COMPETENCE FRAMEWORK FOR EDUCATORS (DigCompEdu)



How digital technologies can be used to enhance and innovate education and training

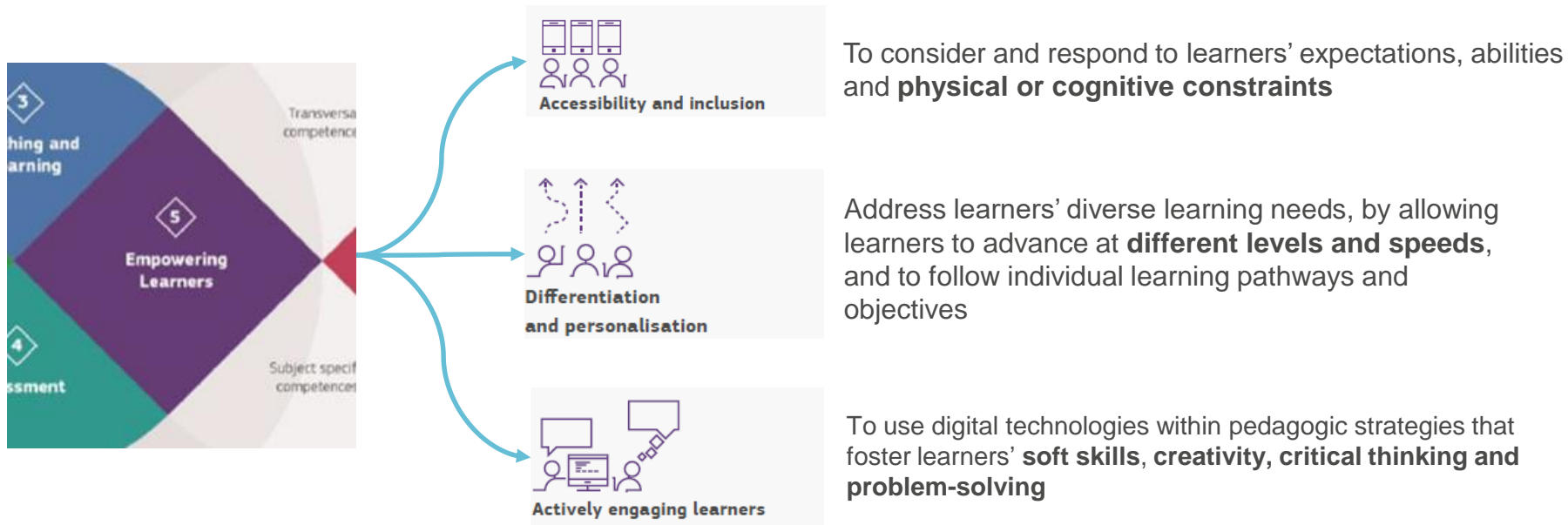
6 Areas
22 Competences
6 Proficiency levels

Human Resources are key for changes

source: <https://ec.europa.eu/jrc/en/digcompedu>



EXAMPLE: EMPOWERING LEARNERS



source: <https://ec.europa.eu/jrc/en/digcompedu>

Student-centred approach

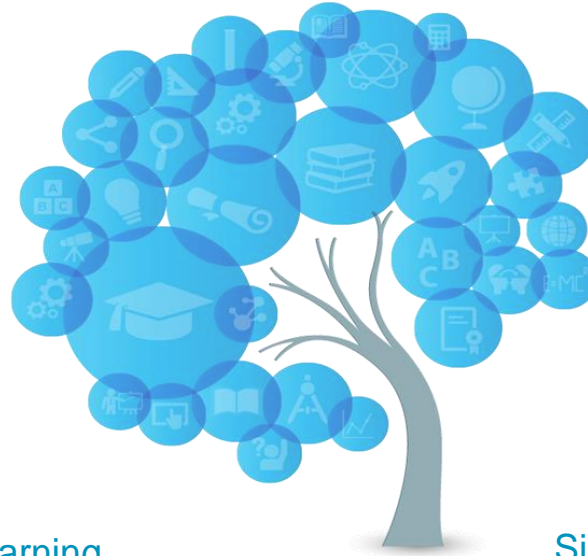
Artificial Intelligence

Active learning

Social Media

Collaborative learning

Learning Management System



Authentic & situated learning

Simulation, virtual and augmented reality

**Digital and Online Learning
it is about pedagogy, it is not about technology**

EXAMPLE FOR VET: VIDEO PEDAGOGY

ETF IS MAKING A STUDY ON THE USE OF VIDEO PEDAGOGY IN VET TO:

- Support observation, judgement and skill improvement;
- Investigate and report on what is going on in the workplace;
- Support learning beyond the classroom and/or
- Enable learners to communicate what they have learnt and what they can do.

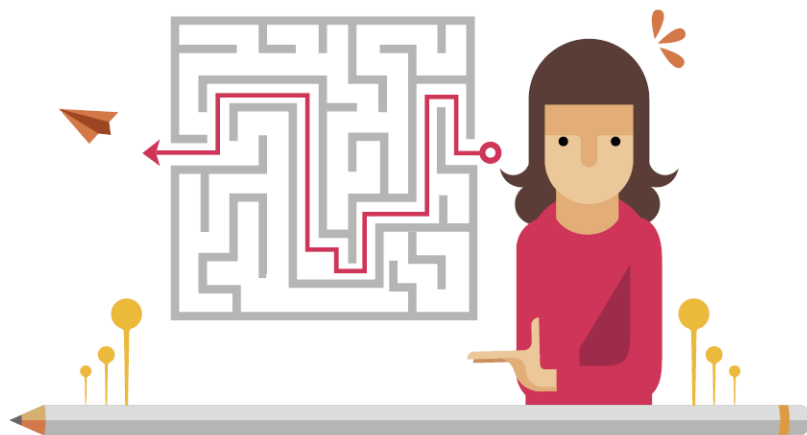




OECD rubric on creativity and critical thinking (class-friendly version)

	CREATIVITY (Coming up with new ideas and solutions)	CRITICAL THINKING (Questioning and evaluating ideas and solutions)
INQUIRING	<ul style="list-style-type: none">• Make connections to other concepts and knowledge from the same or from other disciplines	<ul style="list-style-type: none">• Identify and question assumptions and generally accepted ideas or practices
IMAGINING	<ul style="list-style-type: none">• Generate and play with unusual and radical ideas	<ul style="list-style-type: none">• Consider several perspectives on a problem based on different assumptions
DOING	<ul style="list-style-type: none">• Produce, perform or envision a meaningful output that is personally novel	<ul style="list-style-type: none">• Explain both strengths and limitations of a product, a solution or a theory justified on logical, ethical or aesthetic criteria
REFLECTING	<ul style="list-style-type: none">• Reflect on the novelty of solution and of its possible consequences	<ul style="list-style-type: none">• Reflect on the chosen solution/position relative to possible alternatives

Progression Model for Educators



**Improving digital skills and competence focus
on progress and not on excellence**

In 2019 a self-assessment online tool will be available



VALUE EU OR NATIONAL DIGITAL FRAMEWORKS SELF-ASSESSMENT TOOLS CAN BE?

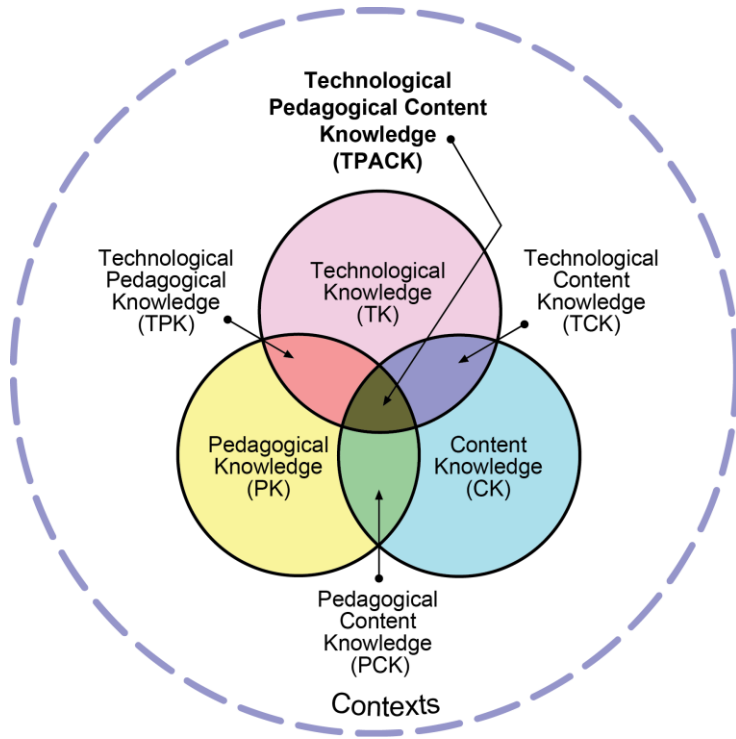
- Shared Understanding** Provide a common reference concept and language of the key elements of educators' digital competence (all levels)
- Innovation** Connect educators' digital competence to innovation of teaching and learning
- Assessment** Allow to understand current levels of digital competence and development needs (self-assessment)
- Progression** Indicate how digital competence progresses and can be developed, on the individual level (TNA)
- Training** What kind of training and CPD could boost educators' competences



PRIORITY 3

Improving education systems through better data analysis and foresight





The TPACK framework

Educators need to feel confident and competent in using and designing appropriate learning experiences for their learners.

We need to know what it works and not (more evidence, research)

The TPACK framework provides a context to work towards a meaningful integration of technology in education.

AS PART OF THE EU DIGITAL EDUCATION ACTION PLAN

- **Improving education systems through better data analysis**

A EU-wide study to measure progress in the use of digital technologies in school education. The questionnaire on ICT use will be connected with the new OECD's PISA round 2021

- **Improving education systems through research (foresight)**

Studies on Artificial Intelligence and Learning Analytics



Middle school teachers...

	Task	AI impact
1	Adapt teaching methods and instructional materials to meet students' varying needs and interests.	High
2	Establish and enforce rules for behavior and procedures for maintaining order among students.	?
3	Confer with parents or guardians, other teachers, counselors, and administrators to resolve students' behavioral and academic problems.	Low
4	Maintain accurate, complete, and correct student records as required by laws, district policies, and administrative regulations.	High
5	Prepare, administer, and grade tests and assignments to evaluate students' progress.	High
6	Prepare materials and classrooms for class activities.	Medium
7	Instruct through lectures, discussions, and demonstrations in one or more subjects, such as English, mathematics, or social studies.	Medium
8	Establish clear objectives for all lessons, units, and projects, and communicate these objectives to students.	Medium
9	Assist students who need extra help, such as by tutoring and preparing and implementing remedial programs.	High
10	Assign lessons and correct homework.	High
11	Enforce all administration policies and rules governing students.	Medium
...		
15	Meet or correspond with parents or guardians to discuss children's progress and to determine priorities and resource needs.	Medium

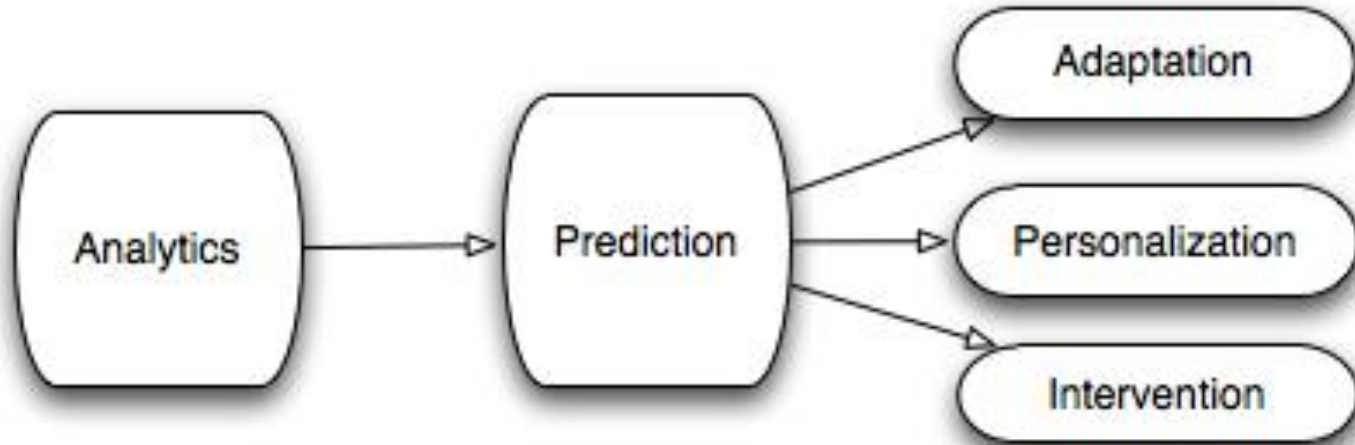
source: O*NET and author's estimates

What computers can't do?

- ‘You insist that there is something a machine cannot do. If you will tell me precisely what it is that a machine cannot do, I can always make a machine which will do just that’.

Von Neumann, 1963, "The general and logical theory of automata."

- I.e., tasks that we cannot precisely describe, cannot be done with computers.
- What are these tasks? How do we learn them?



LEARNING ANALYTICS

the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs

TOWARDS A EUROPEAN EDUCATION AREA

THE EUROPEAN DIGITAL EDUCATION PLAN IS ONE OF THE MEASURE SUPPORTING THE CREATION OF A EUROPEAN EDUCATION AREA

PRINCIPLES:

- Spending **time abroad** to study and learn should be the standard;
- School and higher education **diplomas** should be recognised across the EU;
- Knowing two **languages** in addition to one's mother tongue should become the norm;
- Everyone should be able to access high quality education, irrespective of their socio-economic background; and
- People should have a strong sense of their **identity** as europeans, of europe's cultural heritage and its diversity.



Digital skills and competence, and digital and online learning



Type	Report
Authors	Alessandro Brolpito, ETF expert
Year	2018



The digital transformation is, to varying degrees, taking place in ETF partner countries also. The ETF aims at helping its partner countries reap the benefits of the opportunities offered by the digital transformation and address the related challenges.

This paper presents the ETF's position on, and approach to, digital skills and competence, and digital and online learning in vocational education in partner countries.



<https://www.etf.europa.eu/en/publications-and-resources/publications/digital-skills-and-competence-and-digital-and-online>

THANK YOU

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