



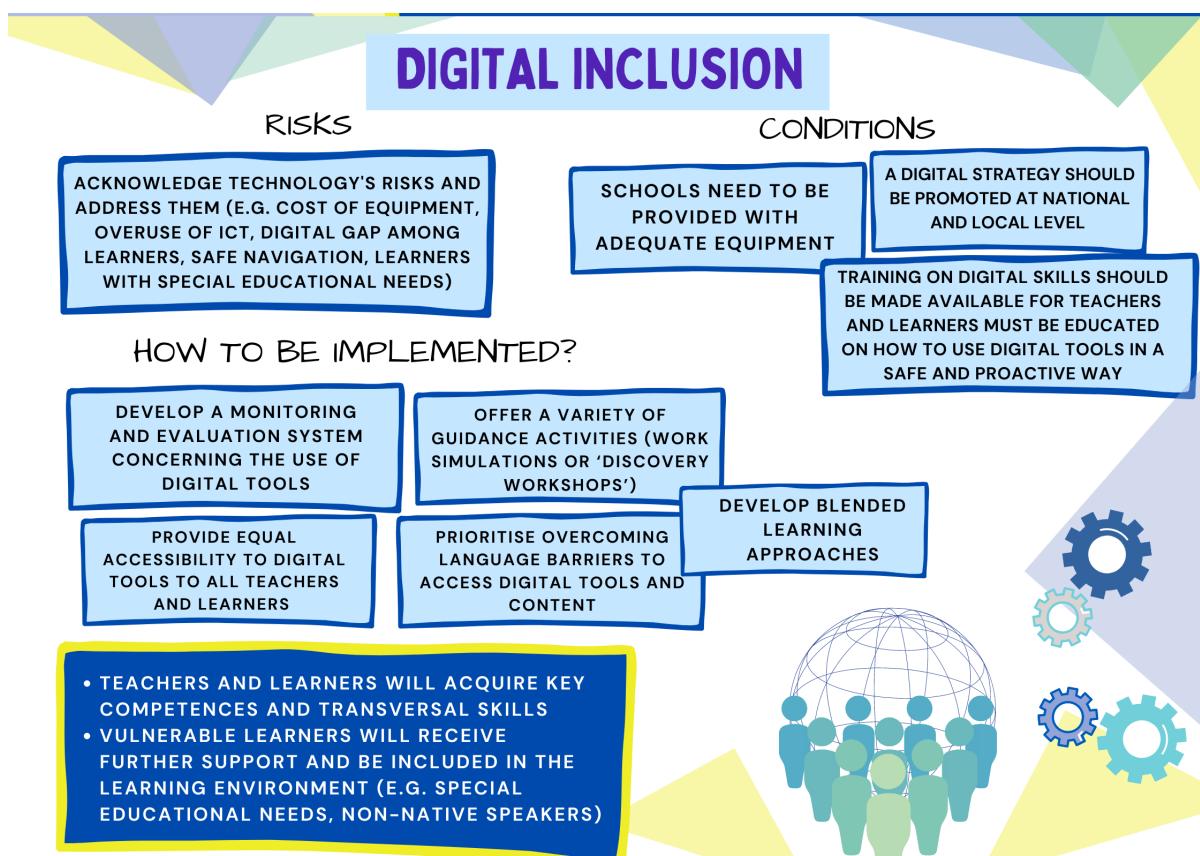
# Digital inclusion and well-being

## Problem statement

### Addressed problem: integrate and bolster digital tools in VET system

Technology has not been yet effectively integrated into teaching practice across Europe. The use and effectiveness of digital tools varies widely across member states and across different school environments. The stark digital divide and education inequity have worsened with Covid-19 measures, as most learning practices shifted to distant methods and online tools were swiftly adopted. In a context where digital devices and internet access increase, it is becoming more and more obvious that digital exclusion may lead to professional and social exclusion.

Digital education strategies have typically been designed with all learners in mind, without sufficient attention to the specific barriers faced by marginalised learners or groups. On the other hand, inclusive education measures have not always included a clear 'digital' dimension. For this reason, it is necessary to link the aspect of digitalisation with that of inclusion in order to support vulnerable VET learners (e.g. migrants, refugees, with low socioeconomic background, with special educational needs) by enhancing their access to and use of digital means.



## Beneficiaries

---

-  **Learners at risk of early leaving from education and training**
-  **Learners who lack employability skills**
-  **VET students (school-based learning)**
-  **Migrants / refugees**

## Addressing the problem

---

### **Tips: How can the introduction and development of digital tools contribute to inclusion?**

The variety of digital tools opens to a wide range of possibilities and innovations in VET educational programmes. For instance, digital games, online repositories, digital learning management system and mobile applications can enhance the learning process while strengthening teachers' and learners' digital skills. Other tools such as VAR (Virtual Augmented Reality), AI (Artificial Intelligence) or AT (Assistive Technologies) have proven to be useful to specifically support SEN-learners with reading, physical disabilities or attention disorders.

However, technology also comes with clear risks and limits:

- learners who do not have access/connectivity are excluded;
- equipping classrooms, teachers and learners with digital tools entails a considerable cost;
- equipping teachers and learners with sufficient digital skills and competences can be costly and time-taking;
- student agency and creativity can be restricted (e.g. AI bases its choices only on past events);
- the overuse of ICT can lead to a rise of mental health disorders (depression and anxiety among students have increased in relation to distant learning during Covid-19);
- vulnerable learners can become even more vulnerable online without tailored support to navigate safely;
- learners with special educational needs may have different learning paces while using ICT tools and are at greater risk to face difficulties during the learning process.

Drawing from the [EU Commission's research on how digital technology can promote inclusion](#), it emerges that the application of digital tools is more important than the digital tools themselves, and that ICT should facilitate and complement rather than replace other teaching methods and classroom practices. To be sustainable and lead to positive outcomes, the use of digital tools should be remedial and targeted.

Moreover, certain conditions need to be met for practitioners to use technology and to facilitate inclusive practices: schools need to be equipped with adequate infrastructure, training on digital skills should be made available for teachers and learners must be educated on how to use digital tools in a safe and proactive way.

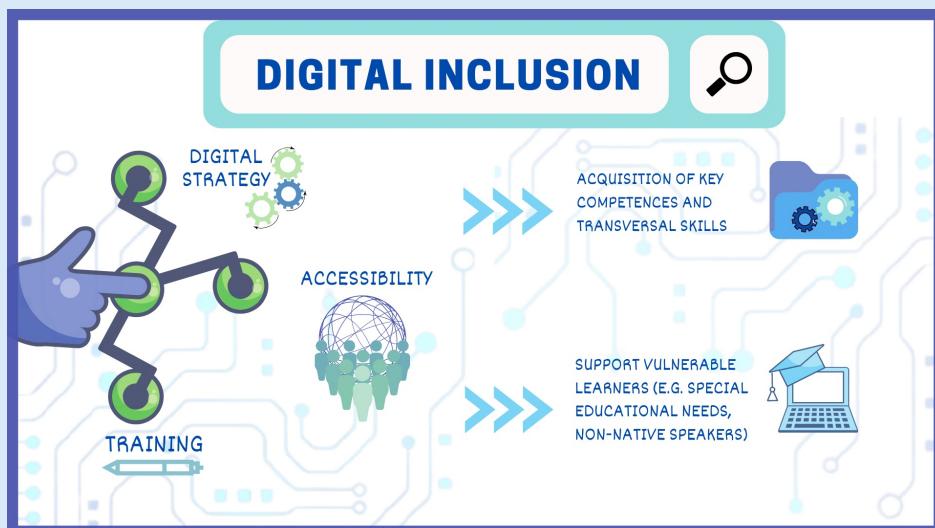
In this regard, the EU political commitment in bringing forward the digital inclusion agenda in education is shown by the [Digital Education Action Plan 2021-2027](#), which has the twofold aim of developing a high-performing digital education ecosystem and of enhancing learners' digital skills and competences for the digital transformation.

The following tips are given as advice to policy makers and practitioners involved in the design and delivery of such measures.

## 💡 Tip 1: Raise awareness on the potential of digital tools for inclusion

Digital technologies enable learning and teaching practices to make a step forward in facing the needs of marginalised learners. It is therefore important to provide knowledge of the digital tools available for schools (i.e. tablets, interactive whiteboards, online courses, etc.) and raise awareness on their potential. Personalised learning methods adopting technology can be beneficial for learners, enrich their experience and provide alternative pathways for different groups:

- For learners with long term illnesses who frequently experience extended school absenteeism, digital tools can support learning continuity by ensuring their connection to what is happening in the classroom and by supporting their socio-emotional wellbeing.
- For learners with developmental and attention difficulties, digital interventions hold the potential to increase their overall focus and production, control learning process and experience ownership, independence and self-mastery in performing specific learning tasks.
- For early leavers who are struggling with traditional pedagogies, digital tools have the potential to present new ways of learning which can be more engaging and motivating. For instance, by making learning more practically oriented through visual or immersive tools and approaches (e.g. Augmented Reality, Virtual Reality, Gamification).



Source: Cedefop

## 💡 Tip 2: Prioritise overcoming language barriers to access digital tools and content

Digital resources and tools can offer key benefits for migrant and ethnic minority learners for at least two aspects:

- Translation and multilingual learning tools can bridge the language barrier while also drawing on students' home languages as a rich resource for continued learning.
- Digital tools can function as cultural mediator as they play a key role in promoting cultural and ethnic open-mindedness.

It is therefore necessary to identify, scale-up and disseminate successful approaches concerning how multilingual tools, such as digital bookshelves, can help to support the development of language skills both in the mother tongue and in the language of instruction for VET and compulsory school-level migrant learners. For instance, given the big wave of migrants from Ukraine to different European countries since February 2022, online educational resources, as well as pedagogical material could be provided in Ukrainian language to support student refugees to continue their learning process.

### 💡 **Tip 3: Provide training and guidance to teachers to develop their digital skills**

Ongoing and specific training is fundamental to provide VET practitioners with necessary digital competences and skills to feel confident in including technology in the teaching practice and profiting from it. For this aim, the creation and use of networks for teachers to share good practices, methods and skills is effective.

Another important aspect is to ensure the availability of staff with technical competences at school-level to strategically support teachers in bridging technical and pedagogical uses of different tools and platforms.

Finally, guidance should be offered to teachers and VET providers on the use of EU frameworks ([DigComp](#), [DigCompEdu](#), [DigCompOrg](#)), and self-reflection tools ([SELFIE](#), [SELFIE](#) for work-based learning, [SELFIEforTEACHERS](#), and [TET-SAT](#)) designed to establish common definitions and standards for digital competences.

### 💡 **Tip 4: Develop a monitoring and evaluation system concerning the use of digital tools**

Provide guidelines and tools to develop monitoring and evaluation mechanisms considering the use of technology in VET learning programmes. This includes regular feedback collection from learners, parents and teachers at local and national level. Reports should be made to observe the ongoing results and impacts that technology has throughout the education process.

### 💡 **Tip 5: Change of attitude and supportive environment**

A strong and effective school leadership with a clear digital strategy should set the guidelines for integrating technology in classrooms. It is important to establish a supportive school climate and consolidate VET providers' positive attitude towards the role of digital technologies within teaching and learning. For instance, there is evidence that for some teachers who were sceptical towards the use of ICT, reliance on digital platforms helped them to demystify technology and made them less risk averse, while giving them more realistic sense of their competences. Especially in distance learning environments, parents themselves should provide an effective support in encouraging their children to develop digital competences. Collaboration among teachers and parents should aim at building motivation for the use of digital tools.

## 💡 Tip 6: Caring for digital well-being

Digital education comes with challenges that can hinder pupils and teachers' well-being, such as cyberbullying and digital divide. As we experienced during the pandemic, an extensive use of distance learning and ICT tools could lead to the risk of disconnecting from reality and damage social relations, potentially resulting in detachment, mental health disorders, anxiety and even depression. Especially for learners at risk of early leaving, an attentive psychosocial support, either led individually or in groups, is recommended as a way to prevent learners, teachers, trainers and school staff from being distressed.

To safeguard mental health in digital and blended learning environments, it is necessary to share a common understanding of well-being, define specific strategies, initiatives for digital well-being in schools at national and EU level and design guidelines and measures to advise schools as to which digital technologies to use in the learning environments. It is also recommended for teachers to address concerns related to the use of technologies in classrooms and other learning environments to promote mental health awareness and resilience among learners.

Social dialogue and consultation with education trade unions should be ensured when formulating policy recommendations on digital and blended learning and make a clear mention on the importance of prioritising mental and physical well-being. Policy makers may support schools by providing equal access to digital learning for all, adequate training and relevant professional opportunities for teachers, trainers and school leaders, targeted investments in appropriate technologies and therefore financial support.

Ministries could prepare specific policy about digital well-being at school and cooperate with the Education Technology (EdTech) sector which combines education and technological advances, including hardware/software, internet-based services used for learning, teaching and assessment in formal or non-formal education and training settings. EdTech solutions could be implemented to promote and ensure well-being and adapted according to individual learners' needs, with a particular focus on learners with special educational needs.

As the Education Technology sectors' influence in education is increasing and privatisation is expanding, public education systems need to be protected from private and commercial interests and actors. In this regard, it is essential that Member States develop national regulations to protect the public value of education. For instance, public platforms for online teaching and learning could be implemented in consultation with education trade unions and stakeholders in full respect of teachers' autonomy and workload. Moreover, public funding and

adequate legal frameworks to ensure data protection and intellectual property rights should be put in place at EU and national levels.

## 💡 **Tip 7: Develop blended learning approaches**

Research findings suggest that a “moderate” level of integration of digital tools is more effective than learning taking place solely in presence or solely online. This facilitates flexible, mobile and self-paced learning and combines it with classroom-based learning to maintain social connection, engagement and well-being. The main goal of blended learning is therefore fostering classroom interaction while maximising the benefits of technology and digital resources, and differentiating instruction methods according to students’ needs.

The 2021 Council Recommendation on blended learning approaches for high-quality and inclusive education defines blended learning as consisting in blending more than one approach to the learning process:

- blending school site and other physical environments different from the school site (either with the presence of a teacher/trainer, or separated by space and/or time in distance learning); and
- blending digital (including online learning) and non-digital learning tools.

Overall, learners in blended learning environments show a significant increase in their average academic achievement compared to learners in face-to-face environments. However, according to EASNIE, blended learning can be stressful for learners with special educational needs while for some students it may be more beneficial to keep distance learning only. For this reason, when implementing blended learning it is of utmost importance to consider individual learners’ needs. Based on their professional judgement, teachers and schools will select and implement blended learning to best support the teaching and learning experience.

## 💡 **Tip 8: Foster intersectoral partnerships**

Cross-sectoral and intersectoral partnership between tech companies, NGOs, philanthropist educational publishers and schools can offer diverse types of support which varies from providing ICT equipment to Wi-Fi access for schools. From a digital inclusion perspective, it is important to facilitate access to EdTech tools and receive appropriate guidance on how to use them.

## 💡 **Tip 9: Ethical considerations**

Especially during the pandemic crisis, public-private partnerships have become a common phenomenon in educational contexts. This raised reservations and ethical concerns on the perceived increasing privatisation of public education systems. It is necessary to draw clear lines when establishing these partnerships,

considering private interest within the education landscape as well as data rights, privacy issues and school's responsibilities. Overall, VET providers need to ensure that governance, ethics and data of the learners are rightly handled, and that technological solutions are well adapted and tailored to meet needs in educational settings. To this extent, VET practitioners should also be involved in the development and piloting of inclusive digital tools.

## 💡 **Tip 10: Empower learners through digital citizenship education**

Digital citizenship education as an element of citizenship education aims to provide opportunities to every individual to master the full range of citizenship competences in a digital society. Developing digital citizenship is of crucial importance in order to foster VET learners' transversal skills and to help them grow as responsible citizens involved in civic and social life. By definition, a digital citizen possesses a broad range of citizenship competences that make them able to engage in both online and offline community life actively, responsibly and continuously. Digital citizenship education can be implemented in formal, informal and non-formal educational settings and involve a wide range of activities, such as creating, consuming, sharing, playing and socialising, investigating, communicating, learning and working. Given the lack of awareness among educators on the importance of digital citizenship education, there is need for targeted actions to train teachers in adopting and embedding it in all classes and subjects in a cross-curricular character.

## **Expected outcomes**

Education technologies can enhance the learning experience while enabling the acquisition of key competences and transversal skills (i.e. digital literacy, communication, technical skills) which will result useful in professional contexts. The integration of digital tools in education and training processes can bridge the digital gap and remove learning barriers for specific vulnerable groups (i.e. migrant learners, learners affected by serious illness, learners with attention difficulties) who are traditionally at risk of educational underachievement and exclusion, by increasing their opportunities of collaboration and engagement with the learning environment.

The positive outcomes can be expected at different levels:



INDIVIDUAL	INSTITUTIONAL	SYSTEM
<ul style="list-style-type: none"> <li>• Positive attitude to learning, education and training</li> <li>• Improved learning outcomes</li> <li>• Improved well-being</li> <li>• Improved digital skills</li> <li>• Improved capacity to deal with one's learning difficulties</li> <li>• Improved 'work readiness'</li> <li>• Improving self-awareness - understanding of own abilities</li> </ul>	<ul style="list-style-type: none"> <li>• Common digital framework</li> <li>• Provision better meets needs of learners, in particular at-risk groups</li> <li>• Increased focus on creating welcoming and inclusive learning environments that encourage learner engagement and motivation</li> <li>• Increased information sharing and collaboration between VET teachers and trainers to ensure effective coordination of measures and interventions</li> <li>• Ensuring specific interventions are identified and tailored to the needs of the individual learner</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced digital and learning gap</li> <li>• Improved inclusion of learners from minority and high-risk groups</li> <li>• Reduced risk of early leaving</li> </ul>

## Related protective factors



**Education achievement and attendance**



**Health and well-being**



## Inclusive environment

## Positive self-perception linked to learning ability



### Work readiness

## Related resources

### Statistics and data

#### Statistics and data

#### OECD statistics on adolescents' life satisfaction

*Understanding and improving child well-being through reliable data and comprehensive indicators*

OECD database showcasing adolescents' life satisfaction worldwide. Providing the data to foster understanding and taking informed policy actions to improve child well-being featuring a range of topics, from health and education to social interactions and living conditions.

Available [here](#)

#### EU level International

#### Statistics and data

#### OECD dashboard: Monitoring child well-being

*Comprehensive indicators for understanding and enhancing children's lives*

The OECD child well-being dashboard provides data for policymakers and the public to monitor efforts to promote child well-being, featuring 19 key indicators on children's outcomes and additional context indicators on drivers of well-being. The dashboard, built in line with the OECD's child well-being measurement framework, offers a multi-dimensional approach to understanding children's material, physical, cognitive, and socio-emotional outcomes.

Available [here](#)

## Good practices



### Training for Success (TfS)

In Northern Ireland, the 'Training for Success' initiative offers training to help young people develop personal and social skills, employability skills, essential skills in Communications, Application of Number and Information Communication Technology whilst working towards nationally recognised qualifications.



United Kingdom



### HUMAN project

*Digital Hate Interrupter Activism to combat structural racism promoting inter-community cooperation through digital technologies*

HUMAN invests in professional education to empower young people to use online digital technologies to understand, prevent and combat racism. It equips educators with competences and tools to support youth in combatting structural racism and to become Digital Hate Interrupter Activists. HUMAN supports multisector and intercommunity collaboration and co-creation in view of promoting Human Rights and respect for diversity. In doing so, HUMAN contributes to safe, inclusive and participatory learning environments.

Belgium Cyprus Greece

Italy Portugal Slovenia

Spain Sweden

## Tools



### Digital video platform "Film your job"

"Film your job" aims to promote apprenticeships by introducing young people to apprenticeship and trades



### PlugInnovation

In Sweden, a website has been developed which offers a central digital knowledge platform for people working in the area of early leaving. It offers

through short videos shared on a dedicated platform as well as on social media.



## Publications



### **Final report of the Commission expert group on tackling disinformation and promoting digital literacy through education and training**

*Directorate-General for Education, Youth, Sport and Culture (European Commission)*

The report brings together the main insights produced by a dedicated Commission Expert Group on tackling disinformation and promoting digital literacy through education and training regarding both challenges and potential solutions for this emerging and complex field, as well as their tentative conclusions and recommendations.



information, guidelines, methods, checklists, questionnaires, and case studies in relation to success factors for retention, one of which is 'flexibility'.



### **Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training**

*Directorate-General for Education, Youth, Sport and Culture (European Commission)*

The Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education provide hands-on guidance for teachers and educators, including practical tips, activity plans, insights on topics and cautionary notes grounded in what works as concerns digital literacy and education and training.



### **Digital gap during COVID-19 for VET learners at risk in Europe**

*Synthesis report based on preliminary information on seven countries provided by Cedefop's Network of Ambassadors tackling early leaving from VET*

Cedefop's ambassadors for tackling early leaving from education and training [call for further support](#) to address the needs of learners at risk and ensure



### **Enhancing learning through digital tools and practices - How digital technology in compulsory education can help promote inclusion**

*Final report: October 2021*

Ecorys is pleased to submit this final report for the study: Enhancing learning through digital tools and practices: how digital technology in compulsory

their equal access to quality distance learning.

 EU level  Germany  Greece  
 Portugal  Romania  Spain  
 Türkiye  United Kingdom

## Publications

### **Enhancing learning through digital tools and practices - How digital technology in compulsory education can help promote inclusion**

#### *Executive summary*

The overall aim of the study was to assess the actual and potential role of digital technologies in promoting access, quality and equity in compulsory school education across the EU27, and in complementing and enhancing traditional forms of teaching and learning.

 EU level

## Publications

### **The use of artificial intelligence (AI) and data in teaching and learning for educators**

#### *European Commission's ethical guidelines*

The Commission's ethical guidelines on the use of artificial intelligence (AI) as well as data usage in teaching and learning are designed to help teachers and trainers understand the potential that these new tools can have in education.

education can help promote inclusion (EAC/08/02/2020).

 EU level

## Publications

### **Hands-on guidance for teachers and educators dealing with disinformation and digital literacy**

*European Commission's Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training*

These Guidelines on tackling disinformation and promoting digital literacy provide hands-on guidance for teachers and educators.

 EU level

## Publications

### **European Commission's Factsheet and infographic**

*Guidelines for teachers and educators on tackling disinformation and promoting digital literacy through education and training*

These illustrated 2-page factsheets focus on the topic of tackling disinformation and promoting digital literacy through education and training.

 EU level



## European Commission's Factsheet and infographic

*Ethical guidelines on the use of AI and data in teaching and learning for Educators*

This illustrated material targets teachers and educational staff in formal education with limited or no prior experience using AI and data in teaching.



## Council Recommendation on the key enabling factors for successful digital education and training

*European Council adopted a set of recommendations in November 2023 to make education fit for real digital transformation*

Under the Digital Decade commitment, the European Union aims for 80% of the population aged 16-74 to have at least basic digital skills by 2030. Not least highlighted by the COVID-19 pandemic, there are a number of deficiencies to improve the digital readiness of education and training systems in terms of resilience, accessibility, high-quality provision and inclusiveness.



## Council Recommendation on improving the provision of digital skills in education and training

*European Council adopted a set of recommendations in November 2023 to make education fit for real digital transformation*

Under the Digital Decade commitment, the EU's target is for 80% of the population aged 16-74 to have at least basic digital skills by 2030.



## UNESCO AI competency framework for teachers

*Framework on teachers' preparation, development and support how to integrate AI in Education*

The UNESCO's AI Competency Framework for Teachers (AI CFT) offers a global vision that outlines the necessary skills and knowledge for teachers to effectively integrate artificial intelligence (AI) into their teaching practices.

**International**



## UNESCO AI competency framework for students

*Framework on how to enable responsible AI co-creation and citizenship in the AI era*

The UNESCO's AI competency framework for students has a vision that goes beyond basic AI literacy. Its goal is to empower students to become not only skilled and responsible users of AI, but also active contributors to the development of more inclusive and sustainable AI systems.

**International**

 Publications

## Wellbeing and mental health at school

*EC guidelines for education policymakers*

The European Commission has developed concrete, hands-on guidelines for education policymakers to address wellbeing and mental health at school, emphasising the importance of a whole-system, whole-school approach (WSA) to wellbeing and mental health.

 **EU level**

 Publications

## Digital Competence of School Principals

*Framework defining digital competencies of principals and assisting them to develop digitally mature schools*

## Commission staff working document on package of recommendations on digital skills in education

*Working document accompanying the Proposals for a Council Recommendation on the key enabling factors for successful digital education and training and on improving the provision of digital skills in education and training*

The European Commission's working document provides an overview of the current state of digital education and skills in the European Union. It examines the enabling factors for digital education and training, including digital infrastructure, institutional capacity, and policy development and implementation.

 **EU level**

 Publications

## Wellbeing and mental health at school

*EC guidelines for school leaders, teachers, and educators*

The European Commission has developed guidelines for school leaders, teachers, and educators to address wellbeing at school, which are based on a whole-school approach.

 **EU level**

 Publications

## Policy Recommendations from the Odisseu Project

*Transnational impact assessment report*

The Erasmus+ ODISSEU project

The Framework for the Digital Competence of School Principals was developed as part of Croatia's "e-Schools" project to define the digital competences necessary for school principals to foster digitally mature schools.



Croatia

develops online gaming and digital tools to integrate asylum seekers and raise awareness about the refugee crisis in Europe through intercultural education and civic engagement.



Cyprus



Germany



Ireland



Italy



Malta



Romania



## Digital education policies and practices on teaching and learning on migration issues in schools

*Transnational research and needs assessment report based on the Odisseu Project*

The basis of this research is the Erasmus+ ODISSEU project, which develops online gaming and digital tools to integrate asylum seekers and raise awareness about the refugee crisis in Europe through intercultural education and civic engagement.



Cyprus



Germany



Ireland



Italy



Malta



Romania



## Report on the relationship between screen time and educational outcomes of children and adolescents

*Understanding the complex, multifaceted relationship between these factors*

The report highlights that while screen time has become an integral part of daily life, its impact on children and adolescents varies significantly based on the type of screen activity undertaken. Educational screen use tends to have positive effects, whereas entertainment use, especially TV and video games, have negative effects.



EU level



## Implementation of the EU Youth Strategy (2022-2024)

*European Commission's report*

The report describes the EU Youth Strategy (2019-2027) focused on engaging, connecting, and empowering young people by promoting their participation in democratic life and supporting their social and civic engagement.



EU level



## Teacher policies to support the use of digital resources in the classroom

*Draft policy brief from OECD*

This policy brief explores how teacher policies can support and incentivise the effective use of digital technologies in education.



EU level



## Teaching basic skills: Digital skills

### *New EC teaching guide for digital skills*

The European Education and Culture Executive Agency of the European Commission has published a new set of thematic guides for teaching basic skills. These guides support the European Commission's Basic Skills Action Plan, and aim to boost teaching and learning, support educators and enable supportive environments.



---

Source URL: <https://www.cedefop.europa.eu/en/en/tools/vet-toolkit-tackling-early-leaving/intervention-approaches/digital-inclusion-and-well-being>