Digital inclusion and well-being

Problem statement

Addressed problem: Bridging the digital divide and ensuring well-being in a tech-driven VET environment

Technological advances can transform the way vocational education and training (VET) programmes are conceived, developed, and implemented, offering transformative potential for VET systems at multiple levels. Digital tools enable personalised learning pathways that adapt to individual student needs and cognitive profiles. They can reshape how learners approach information and knowledge, and how teachers implement different pedagogical methods to increase engagement and reduce early leaving from education and training.

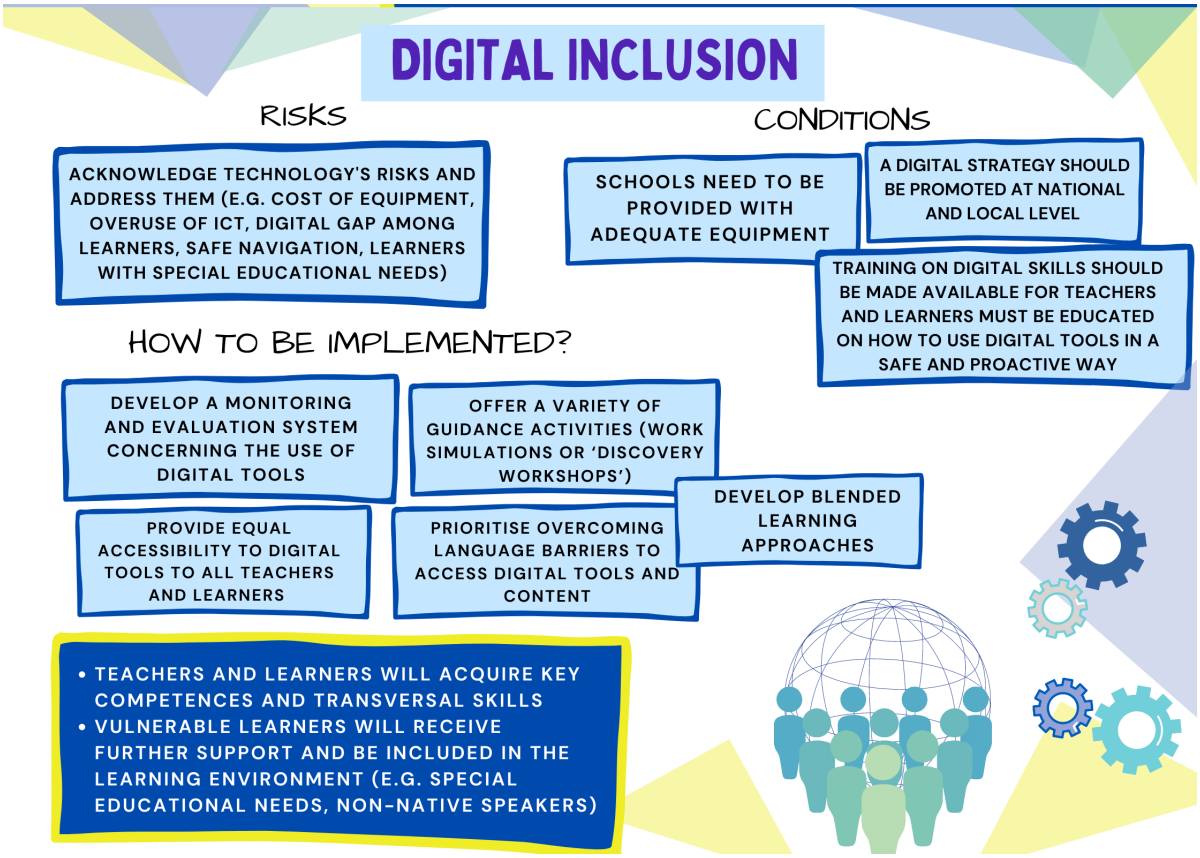
Nevertheless, technological advances have not been effectively integrated into teaching practice across Europe to date. The use and effectiveness of digital tools vary widely across Member States and across different school environments. The stark digital divide and education inequalities became clear and worsened with the COVID-19 pandemic and the rapid shift to distance learning methods and online tools, because such measures were not accompanied by the appropriate socioeconomic instruments to ensure equal access to education for all. In a context where digital devices, the internet, and artificial intelligence are increasingly used in school and workplace settings, it is becoming increasingly evident that digital exclusion – that is, according to the Cedefop glossary, the "marginalisation of an individual, deprived of full access and capacity to use information and communications technologies (ICT), which hinders their participation in economic, social, and political life" – may lead to educational, 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. Conversely, inclusive education measures have not always included a clear 'digital' dimension. For this reason, policy makers should better link digitalisation and inclusion to support vulnerable VET learners (e.g. migrants, refugees, those from low socioeconomic background or special educational needs) by enhancing their access to and use of digital means.

Despite the clear benefits of integrating digital technologies and artificial intelligence in VET systems, the digital transformation of education can present challenges for learners' and teachers' digital well-being. These challenges include physical, cognitive, psychological, and social dimensions of well-being, as well as safety issues and the digital divide. In particular, the use of such tools comes with the following risks and limits:

- the overuse of ICT can lead to a rise in mental health issues (such as depression and anxiety, burnout, emotional dysregulation, reduced sense of self-worth and purpose or belonging issues that increased among students and teachers during distance learning in the COVID-19 period);
- learners with special educational needs and neurodivergent learners may have different learning paces while using ICT tools and are at greater risk to face difficulties during the learning process;
- student agency and creativity can be restricted, while problem-solving capacities and motivation may be reduced, and learners can also face discriminatory treatment facilitated by the use of digital technologies (e.g. through algorithmic biases in AI

systems, where decisions are based solely on past data or socio-economic factors);
- unmonitored use of digital technologies and AI can lead to exposure to harmful content, abusive digital behaviours, and privacy breaches;
- learners and teachers who do not have access/connectivity or the needed skills are excluded;
- equipping classrooms, teachers, and learners with digital tools entails a considerable cost;
- equipping teachers and learners with sufficient digital skills and AI literacy can be costly and time- consuming;
- vulnerable learners can become even more vulnerable online without tailored support to navigate safely.



Beneficiaries

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

Addressing the problem

Tips: How can the integration of digital tools and AI in VET contribute to inclusion and promote well-being?

The EU's political commitment to advancing the digital inclusion agenda in education is reflected in the Digital Education Action Plan 2021-2027, underscoring the significant opportunities that digital technologies and AI offer to enhance learning, inclusion, and well-being in VET. By enabling personalised learning pathways, immersive experiences, and

flexible engagement, digital tools can help learners overcome barriers related to absenteeism, language, learning difficulties, or social marginalisation, while equipping them with the skills and competences needed for the workplace.

Promoting digital skills in VET is no longer optional. Yet, the effective integration of technology in teaching and learning is not automatic: the use of digital tools should be targeted, needs-based, and pedagogically grounded to ensure meaningful and sustainable outcomes.

Many VET learners and teachers face challenges related to access, digital skills, safety, and well-being, which can reinforce inequalities, particularly for vulnerable groups - such as migrants, refugees, low-performing students, or those with special educational needs. Targeted support and guidance are essential, if all learners are to benefit.

Achieving this requires a systemic approach in which schools are equipped with adequate infrastructure, teachers receive training in digital skills, and learners are educated on how to use digital tools safely and proactively. Ethical governance, and mechanisms to monitor learning progress and digital well-being are equally necessary to ensure that technology enhances engagement, confidence, autonomy, and participation, while safeguarding mental health.

The following tips provide practical guidance for policy makers and practitioners on integrating digital tools and AI in VET to promote inclusion and well-being. The recommendations are grounded in evidence from Cedefop research and successful practice across Europe.

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

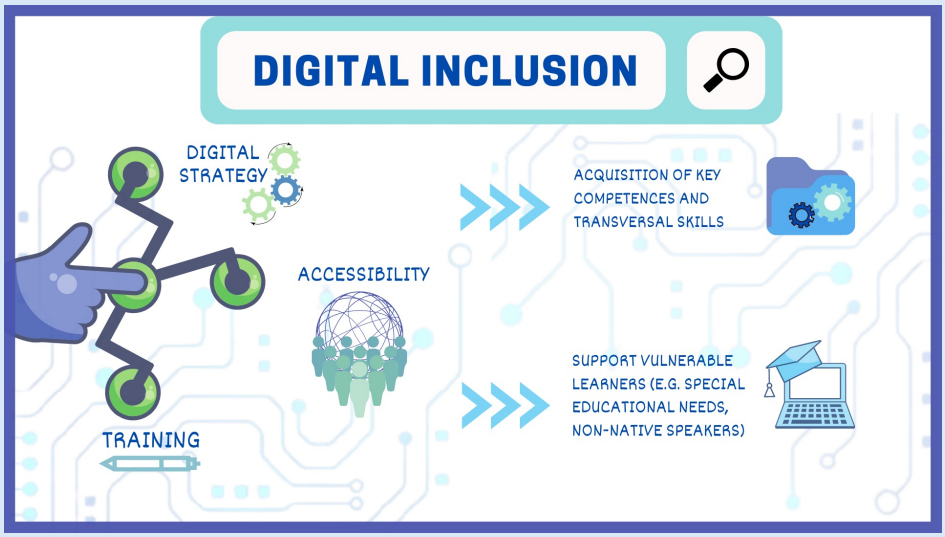
Digital technologies enable learning and teaching practices to better address the needs of marginalised learners or learners with complex needs. It is therefore important to ensure awareness of the digital tools available for schools (i.e. tablets, interactive whiteboards, online courses, etc.) and raise awareness of their potential. This can be achieved through targeted teacher training programmes, school-wide professional development sessions, dissemination campaigns highlighting success stories, and partnerships with EdTech providers to demonstrate practical applications in the classroom context.

Technology-enabled personalised learning methods can be beneficial for all 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 well-being.
- For learners with developmental and attention difficulties, digital interventions can increase focus and productivity, support control over the learning process, and foster ownership, independence, and self-mastery in performing specific learning tasks. Tools such as VR/AR (Virtual and Augmented Reality), AI (Artificial Intelligence) or AT (Assistive Technologies) have proven useful in supporting Special Educational Needs (SEN) learners with reading, physical disabilities or attention disorders. For neurodivergent learners specifically, these tools can provide real-time support for executive functioning, such as breaking complex vocational tasks into manageable, AI-guided steps.
- For early leavers reintegrated into VET 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, digital games,

online repositories, learning management systems, and mobile applications can enhance the learning process, by making learning more practically oriented through visual or immersive tools and approaches (e.g. Augmented Reality, Virtual Reality, Gamification). These immersive environments create "safe-to-fail" simulations, allowing learners to develop critical skills without the anxiety associated with real-life errors; such environments can boost self-confidence for those with previous negative educational experiences.

However, the potential of digital tools and AI cannot be maximised unless users - both teachers and learners- move beyond basic tool usage and adopt the "Understand - Apply - Create" approach, as proposed by the UNESCO AI Competency Framework. Understanding how technologies and AI work and knowing how to take advantage of them to one's benefit helps develop "AI agency", a skill highly sought after in an increasingly digitalised labour market. To achieve this shift from basic usage to deeper AI agency, awareness-raising efforts should be systematic and ongoing. The European Commission's guidelines on the ethical use of AI, as well as the EU AI framework, should be widely disseminated and serve as a basis for policies aiming to reform VET through AI.



Source: Cedefop

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

Digital resources and tools offer key benefits for migrant and ethnic minority learners in at least three areas:

- Translation and multilingual learning tools can bridge the language barrier while also drawing on students' home languages as a resource for continued learning. Modern Large Language Models (LLMs) have transformed translation from simple word-to-word translations to multilingual context generation and allow students to receive complex explanations and contextualisation of information in their native language.
- Digital tools can function as cultural mediators as they play a key role in promoting cultural and ethnic open-mindedness. AI-driven cultural and social "framing" tools can help students from different ethnic backgrounds understand cultural nuances and sociolinguistic intricacies of a new country

and training programme they attend.
- For practical modules and workshop sessions, VET providers can use real-time “speech-to-speech” AI tools, allowing those with different language barriers to participate fully and acquire the same skills as their classmates. These tools can help students with language barriers contribute their own cultural and linguistic perspectives, thus increasing their sense of belonging and reducing the risk of early leaving due to social exclusion.

It is therefore necessary for policy makers to identify, scale up, and disseminate successful approaches concerning how multilingual tools, such as digital bookshelves, can 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.

Tip 3: Leverage AI and advanced technologies for neuro-inclusive VET

Vocational education and training is uniquely positioned to benefit from neuro-inclusive practices due to its focus on practical and task-oriented learning. As highlighted in OECD research on AI and neurodivergent learners, AI and advanced digital tools can be treated as "cognitive assistance tools" that directly address the executive functioning challenges faced by learners with ADHD, autism, dyslexia, and dysgraphia.

To implement this effectively, policy makers and VET providers should:

- Deploy immersive adaptive learning (see Tip 8), using XR and AI, tailored to ADHD and autism profiles to reduce sensory overload;
- Foster “neuro-inclusive pedagogy” by equipping teachers with digital and AI tools to generate multiple versions of the same exercise suited to different cognitive profiles;
- Enable AI-driven executive functioning support by integrating generative AI tools to help learners structure complex projects, manage time, and plan future career paths.

For inclusion to succeed, teachers require specific training on using AI as an assistive tool for neurodivergent learners, ensuring they can personalise learning without increasing administrative burden. Providing teachers with ready-to-use digital toolkits and AI-curated lesson plans can reduce “technostress” associated with digital transitions, making professional development a source of support rather than distress.

AI can also support the protection of neurodivergent learners from bullying; according to OECD evidence, anti-bullying AI tools can be used to identify isolated learners and propose targeted interventions to prevent or address bullying.

Tip 4: Provide training and guidance to teachers to develop digital skills appropriate pedagogies

According to the European Commission’s research on how digital technology can

According to the European Commission's research on how digital technology can promote inclusion, the way digital tools are applied is of paramount importance: ICT should facilitate and complement rather than replace traditional teaching methods and classroom practices.

Ongoing and targeted training is fundamental to provide VET practitioners with the digital competences and skills required to confidently integrate technology into teaching practice and benefit from it. Evidence from the European Vocational Teacher Survey (EVTS) pilot indicates that less than one in three teachers frequently use AI technologies and that many need support in identifying relevant tools. Research also shows that the relationship between digital competence and teacher well-being is bidirectional, with low confidence linked to higher stress and reduced capacity to integrate technology effectively.

To improve teachers' digital and AI skills, the creation and use of networks and platforms to share good practices, methods, and skills has proven effective. Examples from across Europe, such as the Youth Guidance Centres of Denmark, the Integrated Pedagogical System in Hungary, and the OrientaFP in Spain, demonstrate the effectiveness of teacher training, mentorship programmes, and collaborative projects for professional development. Such programmes should be further enriched to include AI and digital technology applications relevant to teachers' work. Research also shows that international cooperation programmes (e.g. eTwinning) positively impact teachers' well-being and enhance digital skills and AI literacy.

Drawing from the UNESCO AI Competency Framework, training should move beyond technical operation of AI and focus on pedagogical integration. This includes equipping teachers to act as "human-in-the-loop" facilitators guiding the ethical use of AI.

An additional requirement is ensuring the availability of staff with technical competences at school level to support the integration of pedagogical and technological practices.

Furthermore, training and guidance should be provided on the use of EU frameworks DigComp, DigCompEdu, DigCompOrg), and self-reflection tools (SELFIE and related tools) designed to establish common definitions and standards for digital competences. These should be adapted to national and regional contexts to ensure relevance and effectiveness.

Research shows that teachers are more likely to engage in upskilling when granted "protected time" to adopt new technologies. Policy makers and VET providers should therefore provide incentives and dedicated resources to support adoption. Professional development should also be formally recognised through micro-credentials or career advancement pathways.

Tip 5: Develop a monitoring and evaluation system concerning the use of digital tools

Policy makers should provide guidelines and tools to develop monitoring and evaluation mechanisms for the use of technology in VET programmes. This should include regular feedback collection from learners, parents, and teachers at provider, local, and national levels. Regular reporting should be established to assess ongoing results and impacts.

Monitoring systems should move beyond academic performance to include digital well-being indicators, such as technostress, social isolation, and exposure to harmful content. Data collection should ensure anonymity and protect privacy

while identifying systemic trends.

In line with UNESCO guidance on generative AI, providers should cooperate with public authorities to support monitoring and reporting of misuse. VET providers should also implement mechanisms to monitor AI systems, including audits, assessments, and data protection measures.

Where significant risks to well-being are identified, such as psychological, social, cognitive, safety, or inclusion risks, VET providers must have a pre-established referral pathway, integrating counselling services or contact with experts. If problematic patterns are detected, such as high levels of digital fatigue or exclusionary behaviour, mechanisms should ensure timely access to appropriate support services.

Tip 6: Foster digital agency and a supportive learning environment

Strong and effective school leadership, supported by a clear digital strategy, should guide the integration of technology in classrooms. Policy makers and VET providers should establish a supportive school climate and promote positive attitudes towards the role of digital technologies in teaching and learning. Digital well-being guidelines should also be integrated into the workplace component of VET programmes to ensure supportive learning environments in work-based settings.

In distance learning environments, VET providers and practitioners should foster parental engagement as partners in learners' digital education. Collaboration between teachers and families should support parents in understanding both the benefits and safety aspects of digital tools, thereby strengthening learner motivation and engagement. Existing initiatives (e.g. "Involve parents, improve school") can support this process by familiarising parents with digital tools and demonstrating their added value. Promoting a "safe-to-experiment" culture can support both staff and learners in becoming confident and creative users of digital technologies.

Tip 7: Prioritise mental health and build a "whole-community" and systematic approach to digital well-being in VET

Digitalised education programmes come with challenges that can hinder learners' and teachers' well-being, such as cyberbullying and the digital divide. Evidence from the COVID-19 pandemic shows that extensive use of distance learning and ICT tools can lead to digital detachment, weakened social relations, and increased risks of anxiety and depression. Recent European Commission priorities include addressing the impact of digital environments and social media on well-being. The Commission's report "Promoting Well-being in Digital Education" proposes a Model of Emerging Practices structured around key guiding principles, including fostering a whole-school approach and addressing barriers to the implementation

of well-being in digital education. This evidence highlights that digital environments can lead to isolation, cyberbullying, hate speech, social comparison, and 'fear of missing out', negatively affecting well-being and motivation. For learners at risk of early leaving, accessible psychosocial support systems are essential to prevent distress.

To safeguard mental health, policy makers and VET providers should adopt a "whole-community" approach to well-being, supported by common definitions, strategies, and guidelines at national and EU level. This approach should shift the focus from preventing harm to actively promoting digital well-being. Teachers, learners, and staff should be encouraged to engage in open dialogue and jointly address technostress and digital fatigue.

VET providers and national authorities should ensure that digital tools promote "well-being by design". This includes developing institutional policies on digital well-being and strengthening cooperation with the EdTech sector to ensure that technologies are accessible, context-appropriate, and support healthy learning environments. Specialised EdTech solutions should be implemented and adapted to individual learner needs, particularly for learners with special educational needs or neurodivergent profiles.

Social dialogue is central to this "whole-community" approach. Consultation with education stakeholders is essential to ensure manageable workloads, the right to disconnect, and overall well-being are prioritised.

Tip 8: Develop blended learning approaches

Research findings suggest that a balanced level of integration of digital tools is more effective than purely face-to-face or fully online learning. This approach combines flexible and self-paced learning with classroom interaction, supporting 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 goal of blended learning is to balance interaction with the effective use of digital resources and differentiated instruction.

The 2021 Council Recommendation defines blended learning as combining multiple approaches in the learning process:

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

Evidence indicates that learners in blended environments often achieve higher outcomes compared to purely face-to-face settings. However, blended learning may pose challenges for some learners (e.g. according to the European Agency for Special Needs and Inclusive Education, blended learning can be stressful for learners with special educational needs due to transitions between differing sensory environments). For these cases, consistent distance-learning routines may be more appropriate.

To address this, VET providers should adopt "immersive adaptive learning". This includes using Extended Reality (XR) to allow learners to rehearse technical tasks in "safe-to-fail" environments before transitioning to physical workshops. This approach supports anxiety management while maintaining social connection and teacher guidance.

Teachers should also use AI-driven tools to provide modular feedback that learners can access flexibly while maintaining learning quality.

Tip 9: Foster intersectoral partnerships

Cross-sectoral partnerships between technology companies, NGOs, and education providers can help bridge the digital divide by providing equipment, connectivity, and expertise. To ensure sustainability, these partnerships should move beyond one-off donations towards long-term collaboration. This includes co-designing curricula aligned with labour market needs and adapting EdTech tools for pedagogical use.

Tip 10: Uphold ethical governance and public value of education

Public-private partnerships have become increasingly common in education, particularly since the pandemic. This has raised concerns regarding the increasing privatisation of public education systems. As the influence of the EdTech sector grows, public education systems must be safeguarded from commercial interests that may compromise pedagogical quality or data privacy. VET providers should ensure that governance, ethics, and learner data are managed with high standards of transparency and that technological solutions are adapted to educational needs.

Member States should develop regulatory frameworks to safeguard the public value of education and ensure that digital tools serve the common good.

Key safeguards include:

- social dialogue: platforms and tools should be developed in consultation with stakeholders to ensure respect for teacher autonomy and working conditions;
- data protection and privacy: robust legal frameworks and funding mechanisms should ensure data protection and intellectual property rights;
- inclusive co-design: practitioners and learners should be involved in developing tools that follow “ethics-by-design” principles.

Tip 11: Empower learners through digital citizenship education

Digital citizenship education aims to equip individuals with the competences required to participate in a digital society. It is essential for fostering transversal skills and supporting active citizenship. A digital citizen can engage responsibly in both online and offline contexts. It can be implemented across formal, non-formal, and informal settings through a wide range of activities. Policy makers should

support teacher training and cross-curricular integration of digital citizenship education.

In the current context, digital citizenship should include AI literacy and algorithmic awareness. The 2025 European Commission's Report on Digital well-being highlights the need for learners to understand how data-driven systems influence their choices, privacy, and interactions. Learners should transition from passive consumption to active and ethical engagement with digital technologies.

Expected outcomes

Education technologies can enhance learning experiences and support the acquisition of key competences and transversal skills (e.g. digital literacy, communication, technical skills) relevant to professional contexts. The integration of digital tools in education and training can help bridge the digital divide and remove barriers for vulnerable groups (e.g. migrant learners, learners with health conditions, learners with attention difficulties), increasing their engagement, participation, and likelihood of successful outcomes.

- Positive attitude to learning, education and training
- Improved learning outcomes
- Enhanced well-being
- Improved digital skills
- Increased capacity to manage individual learning difficulties
- Improved 'work readiness'
- Greater self-awareness – understanding one’s abilities
- Attainment of AI agency
- Increased digital contentment
- Personalised inclusion for neurodivergent and migrant learners

- Adoption of a common digital framework
- Provision that better meets needs of learners, particularly at-risk groups
- Welcoming and inclusive learning environments that encourage engagement and motivation
- Greater information sharing and collaboration between VET teachers and trainers to ensure effective coordination of measures and interventions
- Identification and tailoring of specific interventions to meet learners’ needs
- Construction of “well-being by design” environments
- Improvement of instructional quality through “safe-to-fail” practical training

- Reduced digital and learning gap
- Improved inclusion of learners from minority and high-risk groups
- Reduced risk of early leaving
- Protection of the public value of education
- Improved social dialogue and professional sovereignty

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

EU level **International**

Good practices

Good practice

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

Good practice

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

Tools

Digital video platform "Film your job"

"Film your job" aims to promote apprenticeships by introducing young

Tools

PlugInnovation

In Sweden, a website has been developed which offers a central digital knowledge platform for people working

people to apprenticeship and trades through short videos shared on a dedicated platform as well as on social media.

France

in the area of early leaving. It offers information, guidelines, methods, checklists, questionnaires, and case studies in relation to success factors for retention, one of which is ‘flexibility’.

Sweden

Publications

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.

EU level

Publications

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.

EU level

Publications

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

Publications

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

the needs of learners at risk and ensure their equal access to quality distance learning.

EU level Germany Greece

Portugal Romania Spain

Türkiye United Kingdom

digital technology in compulsory education can help promote inclusion (EAC/08/02/2020).

EU level

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

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

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

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

education.

EU level

Publications

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.

EU level

Publications

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.

EU level

Publications

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.

EU level

Publications

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

Publications

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

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 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

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

Digital Competence of School Principals

Publications

Policy Recommendations from the Odisseu Project

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

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

Transnational impact assessment report

The Erasmus+ ODISSEU project 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**

Publications

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**

Publications

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

Publications

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

Publications

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.

engagement.

EU level

EU level

Publications

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.

EU level

Publications

Promoting well-being in digital education

European Commission study proposing a model of emerging practices

This European Commission study deepens the understanding of well-being in digital education, identifying policies, practices, and evidence from schools across Member States.

EU level

Publications

2026 Guidelines on the ethical use of artificial intelligence and data in teaching and learning for educators

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

Since the first version of the Commission's guidelines for the ethical use of artificial intelligence and data in education was published in 2022, there has been an exponential growth in the use of AI by teachers and learners following the wave triggered by public access to generative AI (GenAI).

EU level

Publications

Guidance for generative AI in education and research - UNESCO

Towards a human-centred approach to the use of generative AI

UNESCO's first global guidance on GenAI in education aims to support countries to implement immediate actions, plan long-term policies and develop human capacity to ensure a human-centred vision of these new technologies.

EU level International

Publications

AI to Support Neurodivergent Learners in Vocational Education and Training AI

OECD 2026 Report

Drawing on insights from over 50 stakeholder interviews, the report highlights the potential of these technologies to make VET more adaptive, accessible and inclusive.

EU level **International**

Publications

Digital Well-being Framework

WINDEE Project – Well-being in digital education ecosystem

The Digital Well-Being Framework has been developed in the context of the WINDEE project, funded by the European Commission for enhancing digital well-being in European education.

EU level

Publications

High-Quality Digital Education Practices

Case Study Report – WINDEE Project

The report highlights successful case studies of high-quality digital education practices for enhancing digital well-being. It showcases 11 digital well-being strategies and presents 41 case study examples collected from schools, universities, NGOs, and EdTech providers across 10 European countries.

EU level

Publications

Assessment of digital tools and technologies

WINDEE Project

This report presents a comprehensive analysis of 103 digital educational tools used across five European countries, evaluating how their features impact student and teacher well-being, while examining the relationship between digital well-being and technostress in technology-rich learning environments.

EU level

Publications

Digital well-being in education: Policy Mapping Report

WINDEE Project

This report provides an analytical overview of digital well-being policies in education across five European

Publications

OECD Digital Education Outlook 2026

Exploring Effective Uses of Generative AI in Education

The OECD Digital Education Outlook 2026 analyses emerging research that suggests Generative AI (GenAI) can

countries (Spain, Lithuania, Estonia, Finland, and Malta) involved in the WINDEE project, examining how education systems address both the opportunities and challenges of technology-rich learning environments.

EU level

support learning when guided by clear teaching principles.

EU level International

Publications

Tackling disinformation and promoting digital literacy through education and training

European Commission 2026 Guidelines for teachers and educators

The 2026 European Commission guidelines are an update to the 2022 Guidelines designed for teachers working in primary and secondary education levels, with little to no prior experience with digital literacy or disinformation.

EU level

Publications

Guidelines for teaching informatics

Practical strategies for European classrooms

The 2026 European Commission guidelines on teaching informatics, addressed to teachers and educators, aim at preparing young people for the digital world.

EU level

Publications

Making informed choices on digital education content

EU guidelines for teachers and educators

The new EU guidelines on digital education content support teachers and educators at selecting, creating and using digital resources - known as “digital education content”- that are safe, reliable and effective for teaching, learning, and assessing learner performance.

EU level

Publications

Digital wellbeing: impact on learners and educators

Literature review and desk research report

This report provides an in-depth literature review of research from the past 10-15 years examining the relationship between digital technology use and student well-being, digital competence, and academic outcomes in educational settings, with particular focus on the harmful effects of excessive screen time and early smartphone acquisition.

EU level

Publications

The impact of eTwinning on teachers' wellbeing

Monitoring report 2024

This full monitoring report examines the impact of eTwinning on teachers' wellbeing through a mixed-methods approach combining survey data and qualitative interviews.

EU level

Publications

The impact of eTwinning on initial teacher education - Placing teacher educators and student teachers in the spotlight

Monitoring report 2023

The report sheds light on the role of eTwinning in strengthening teaching practices and supporting innovation in initial teacher education, with a particular focus on the 'eTwinning for future teachers' initiative.

EU level

Publications

Exploring the impact of eTwinning in early childhood education and care and initial vocational education and training

Monitoring report 2022

This monitoring report explores the impact of eTwinning in early childhood education and care and initial vocational education and training.

EU level

Publications

A systemic, whole-school approach to mental health and well-being in schools in the EU

Overview report

This report reviews international evidence on promoting mental health and well-being and preventing bullying in schools, with the aim of supporting safer, more inclusive learning environments across Europe.

EU level