



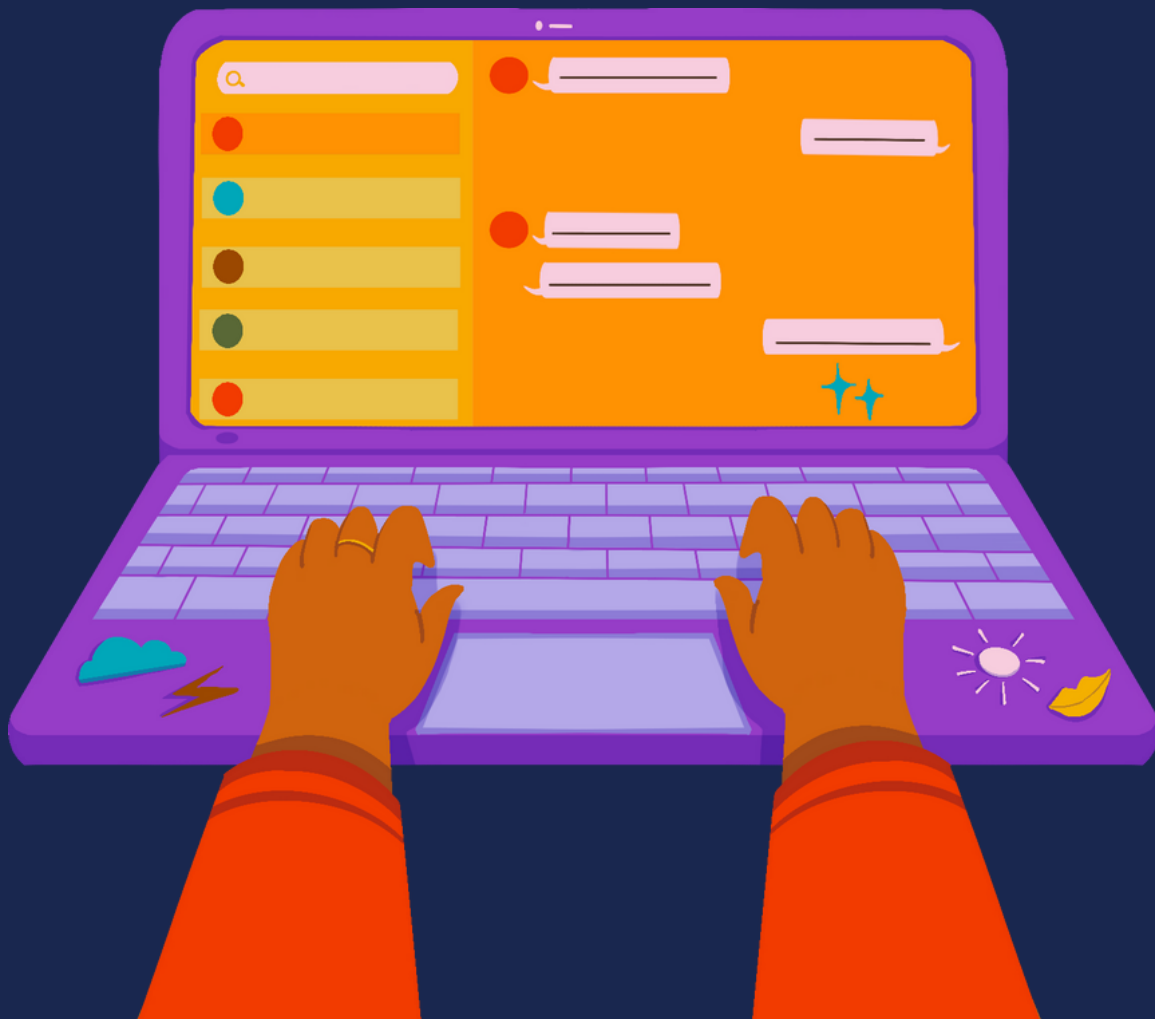
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Sustainable Development Goals for Pupils

Digital Skills Course Curriculum

Module 5: Improving Digital Technology Inclusion



Imprint

Published by:

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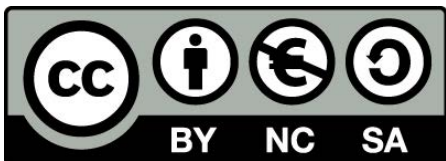
Design and layout: Eco Logic

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Project Number: 2022-1-FR01-KA220-SCH-000087085

This curriculum is part of the Erasmus+ project Sustainable Development Goals for Pupils

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Introduction

Education is changing and evolving every day, making digital skills to become irreplaceable and needed for both educators and students. The Erasmus+ Project Sustainable Development Goals for Pupils recognized this growing need and has worked on a structured digital skills course tailored for teachers accompanied with Power Point Presentations, quizzes, videos. This course empowers educators to include technology more into their professional practice, enhancing communication, collaboration, and pedagogical innovation. By bridging the gap between digital tools and sustainable teaching practices, this initiative aligns with global education goals, fostering inclusivity, active engagement, and lifelong learning.

The course contains six modules, each focusing on a different aspect of digital education. These modules aim to empower teachers with practical skills, theoretical knowledge, and actionable strategies for using digital technologies effectively in their classrooms. From fostering collaboration to empowering students' digital competence, the modules provide a roadmap for educators to thrive in a technology-driven world.

Module 1: Using Digital Tools for Cooperation and Communication

This module focused on how digital technologies can make easier collaboration and communication among teachers, students, and broader educational communities. Educators will learn to leverage platforms for professional networking, peer collaboration, and real-time communication, fostering a culture of shared knowledge and mutual support.

Module 2: Digital Resource Selection, Modification, Creation, and Sharing

In this module, teachers will dive more into the ethical and practical considerations of selecting, adapting, and creating digital resources. It emphasizes the “dos and don'ts” of resource management, ensuring that educators can curate and share content responsibly while aligning with their pedagogical goals.

Module 3: Managing Digital Technologies in Teaching and Learning

This module is focused on effectively integrating digital tools into teaching practices. Educators will explore principles for managing digital technologies to enhance student engagement, support diverse learning styles, and foster collaborative and self-directed learning environments.

Module 4: Digital Tools and Assessment Techniques for Teachers

Assessment is a critical component of education, and this module introduces teachers to various digital tools and techniques for evaluating student performance. It emphasizes feedback and progress analysis, helping educators to choose assessment strategies that are both effective and aligned with modern pedagogical needs.

Module 5: Improving Digital Technology Inclusion

Inclusivity is a cornerstone of education, and this module delves into ways to use digital tools to enhance accessibility and personalization. Teachers will learn to create inclusive classroom environments where all students, regardless of their background or abilities, can actively participate and benefit from digital learning.

Module 6: Promoting Students' Digital Competence

The final module focuses on empowering students to use digital technologies creatively and responsibly. Educators will explore practices that enable students to develop critical digital competencies, including communication, content creation, and problem-solving. These skills prepare students to navigate the digital world with confidence and innovation.

Each module focuses on a distinct area of digital integration, giving educators the skills and tactics they need to create a modern, inclusive, and technology-driven learning environment. This course will help teachers improve their digital literacy while also inspiring their pupils to become engaged and responsible digital citizens.

By working through these modules, educators will gain a comprehensive understanding of how digital tools may revolutionize their teaching approaches. The Erasmus+ Project Sustainable Development Goals for Pupils aims to provide teachers with the skills they need to establish sustainable, inclusive, and future-ready classrooms, ensuring that education evolves in tandem with technological improvements.

Module 5: Improving Digital Technology Inclusion

Learning Objectives	<ul style="list-style-type: none">- Understand the Impact of the Digital Divide on Education: teachers will explore how the digital divide affects students' learning opportunities and academic performance, gaining insight into the socio-economic, geographical, and technological factors that contribute to unequal access.- Incorporate Digital Tools to Foster Inclusion: Teachers will learn to select and implement a variety of digital tools and resources that promote inclusivity, ensuring all students can participate actively in their learning, regardless of their background.- Develop Strategies to Address Barriers to Digital Access: Teachers will identify specific obstacles their students face regarding digital access and develop actionable strategies to overcome these barriers, creating a more equitable learning environment.
Learning Competences	<ul style="list-style-type: none">- Digital Literacy and Pedagogical Integration: Teachers will enhance their ability to integrate digital literacy into their curriculum, equipping students with the skills necessary to navigate and utilize technology effectively in their academic pursuits.- Differentiation and Inclusivity in Teaching: Teachers will become proficient in differentiating instruction to meet the diverse needs of their students, ensuring that all learners, including those with disabilities or from marginalized backgrounds, can engage with digital content.- Collaboration and Advocacy: Teachers will develop skills to collaborate with colleagues, administrators, and the community to advocate for policies and resources that support digital inclusion, fostering a culture of shared responsibility for equitable education.

Introduction

The shift to digitalization has opened up many new and exciting opportunities. However, not everyone has equal access to these possibilities. For some people, the digital world remains partially inaccessible, and, for others, it is still not practical. Still, others have not received the necessary training to fully participate, specially the school teachers. Information gaps are not just present between industrialized and developing countries, but also within societies, between individuals who have convenient access to information and those who lack the knowledge of how or where to locate it. It is commonly assumed that this gap can be easily bridged by offering numerous access points, both physical and digital. However, those who need information the most often lack access to the necessary technology for retrieving it or the skills required to effectively utilize the information services offered by ICT (Information and Communication Technologies).¹² Bridging this gap in the education requires significant effort from governments, institutions, and teachers themselves to provide equitable access to technology and digital education. Without such efforts, the digital divide will continue to grow, leaving many people behind.

Digital inclusion refers to ensuring fair and equal access to, usage of, and participation in digital technologies for people of all backgrounds, regardless of factors such as age, gender, ethnicity, nationality, mobility, physical and cognitive abilities, or socio-economic status. It plays a vital role in empowering individuals, especially those who have been marginalized or historically excluded, by providing them with the necessary skills and opportunities to engage fully in the digital landscape.¹³

Promoting digital inclusion requires the development of learning environments that are both inclusive and supportive, tailored to meet the diverse needs of all participants. To achieve this, it is important to identify and remove obstacles that learners may encounter, providing them with the proper tools, guidance, and resources with easy access. Additionally, collaboration between educators, policymakers, and technology providers is crucial to ensure that everyone has the ability to thrive in the digital age. Empowering individuals with these skills not only benefits them but also strengthens society as a whole by bridging the digital divide.¹⁴

12 Goulding, A. (2001). Information poverty or overload? *Journal of Librarianship and Information Science*, 33, 109–111. <https://doi.org/10.1177/096100060103300301>

13 CDE, The Center for Digital Equity, <https://thecenterfordigitalequity.org/what-is-digital-inclusion/>

14 Interaction Design Foundation - IxDF. (2024, February 6). *What is Digital Inclusion?*. Interaction Design Foundation - IxDF. <https://www.interaction-design.org/literature/topics/digital-inclusion>

<p>Digital Technology Inclusion in Schools</p>	<p>Digital technology inclusion in educational institutions is crucial for various reasons that significantly affect students' academic achievements and future prospects in an ever-changing landscape¹⁵:</p> <ul style="list-style-type: none"> • Equitable Access to Education: Many students do not have the same level of access to technology at home. By fostering digital inclusion within schools, we can create a more equitable environment, ensuring that all students, irrespective of their socioeconomic status, can utilize the same learning tools and resources. • Building Digital Literacy: Introducing digital tools early in the educational journey enables students to cultivate essential competencies such as coding, data interpretation, and navigating the internet. Digital literacy includes basic competencies such as using email effectively—understanding etiquette and recognizing scams—as well as engaging with digital platforms. Schools that prioritize digital inclusion prepare students for future job markets by enhancing their abilities to use technology safely and effectively. Teaching foundational skills like word processing, spreadsheet management, and online research empowers students to collaborate and communicate effectively. By integrating these practices, educators ensure students are ready for academic and career challenges. • Improving Learning Outcomes: Digital resources make education more interactive and engaging, facilitating personalized learning experiences via platforms, applications, and multimedia materials. This approach can boost comprehension and retention, as students can progress at their own speed and revisit concepts as necessary. Technology also provides access to extensive online libraries, educational applications, and global experts, expanding students' learning beyond the traditional classroom setting.
	<ul style="list-style-type: none"> • Promoting Inclusivity and Accessibility: Digital inclusion assists students with disabilities by offering assistive technologies such as screen readers, speech-to-text applications, and adaptive software. This ensures that all students, including those with special requirements, can fully engage in the educational process. Additionally, technology enables a variety of teaching strategies that cater to different learning styles, whether visual, auditory, or kinesthetic, making education more inclusive and effective for everyone.

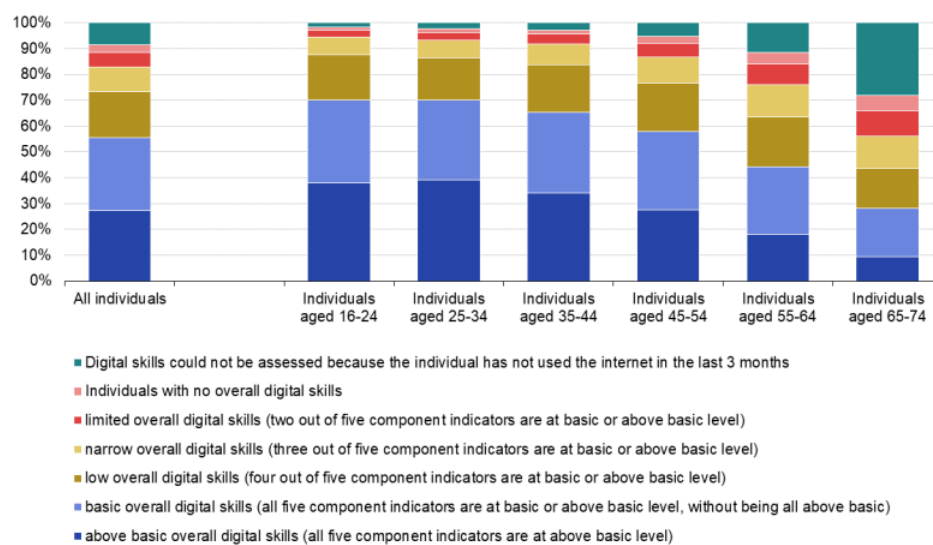
- **Fostering Global Citizenship:** Digital technology enables students to interact with global perspectives, collaborate with peers across the globe, and access information from various cultures. This exposure helps students gain a more comprehensive understanding of the world, transforming them into informed global citizens. Schools that prioritize digital inclusion equip students with the skills and knowledge necessary to engage in online civic activities, such as digital advocacy, e-voting, and other forms of digital participation in society.
- **Bridging Achievement Gaps:** For students from disadvantaged backgrounds, digital inclusion can play a vital role in enhancing academic performance. By providing access to technology and additional learning resources, schools can help bridge achievement gaps through extra support and digital tutoring. The COVID-19 pandemic highlighted the critical need for digital inclusion as schools transitioned to remote learning. Students with access to digital tools were able to continue their education, while those without faced significant challenges. Ensuring the integration of digital technology prepares educational institutions for potential future disruptions.

Understanding Digital Divide

The capacity to perform such activities remotely represents a significant advancement in technology and digital innovation. Conversely, it highlights the problem faced by those who are left out of this progress due to insufficient tools and skills to keep pace with it. This situation is known as the Digital Divide, which refers to the exclusion from the advantages of technological advancements and innovations. It encompasses the disparity between individuals, communities, and nations that have access to digital technologies and those that do not. This divide affects a person's ability to participate in essential activities such as education, employment, healthcare, and social engagement.¹⁶ This disparity in access to digital services highlights how it manifests at local, national, and international levels, emphasizing the importance of ensuring access and connectivity to digital resources in order for society to be truly democratic.¹⁷

As reported by Eurostat in 2023, 56% of EU citizens aged 16-74 had at least basic digital skills, though there were significant differences based on socio-demographic factors like age and education level. Only 28% of individuals aged 65-74 had at least basic digital skills, whereas 70% of "digital natives" aged 16-24, as well as those aged 25-34, possessed such skills.¹⁸

Digital skill levels by age group, EU, 2023
(% of individuals)



Source: Eurostat (online data code: isoc_sk_dski_i21)

eurostat

Digital skill levels by age group, EU, 2023.¹⁹

16 DI BARI, C. O. S. I. M. O. (2023). Dal digital divide all'inclusione digitale. *Studi Sulla Formazione*, 26(2). https://flore.unifi.it/retrieve/854d5972-1317-40b7-a6b8-3ff3bde7485b/Articoli_07_DiBari_SsF_2-2023.pdf

17 B. M. Compaine (ed.), *The digital divide*, Cambridge, London, 2001. U. Eco, *Apocalittici e integrati*, Milano, Bompiani, 1964. H. Jenkins, *Cultura convergente*, Milano, Apogeo, 2007.

18 Eurostat, *Skills for the digital age*, European Commission, 2024, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Skills_for_the_digital_age&oldid=627686#Measuring_digital_skills_in_the_EU

19 Eurostat, *Digital skill levels by age group, EU, 2023*, https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Skills_for_the_digital_age&oldid=627686#Measuring_digital_skills_in_the_EU

The digital divide is influenced by a variety of interconnected elements that restrict access to technology, resources, and the skills necessary to participate in the digital landscape. Key factors include²⁰:

- **Infrastructure and Availability:** In many countries, urban areas enjoy more advanced digital infrastructure; In contrast, rural or remote areas often encounter significant challenges, such as slower internet speeds, unreliable connections, or even a total lack of access. These differences further widen the digital divide, as people in these regions may find it difficult to access online education, remote jobs, or vital digital services. Learners and educators in rural regions often face difficulties in participating in online education or obtaining digital instructional resources, which restricts their chances for academic achievement. The expense of developing and sustaining infrastructure in these areas frequently discourages investment, putting these communities at a technological disadvantage and further intensifying educational inequalities.

- **Affordability:** Access to the internet requires devices such as smartphones, laptops, tablets, or desktop computers. For numerous low-income families, the cost of these devices is prohibitive, posing a major obstacle for students who require them for remote learning or completing assignments. Educators in underfunded schools may also face a shortage of essential tools or software, hindering their ability to deliver effective digital instruction. This economic disparity can deepen educational inequalities, leaving both financially disadvantaged students and teachers at a disadvantage.
- **Digital Literacy:** Digital literacy is essential for both students and teachers to effectively utilize technology in educational environments. However, many people, especially older individuals and those from underrepresented communities, may struggle with the skills or confidence needed to operate digital tools. This lack of digital proficiency can prevent educators from successfully incorporating technology into their teaching methods and limit students' ability to use online learning platforms.
- **Cultural and Language Barriers:** Language and cultural differences can impede individuals' access to or understanding of digital content, especially when resources are not provided in their native languages or lack cultural relevance. For those whose primary language is not the predominant language used online, navigating digital platforms can be difficult. Digital content and services that are not multilingual or do not consider diverse cultural perspectives can exacerbate the digital divide for non-native speakers and minority communities.
- **Socioeconomic Factors:** Access to technology is often linked to income. Students from more affluent families typically enjoy better access to online learning resources and high-speed internet, providing them with a considerable edge compared to their peers from low-income backgrounds. Educators in wealthier districts often have greater resources to incorporate technology into their teaching, while those in economically disadvantaged schools may face challenges with outdated devices or insufficient digital materials.
- **Accessibility issues:** Accessibility plays a crucial role in the digital divide, particularly for people with disabilities or those from underrepresented groups. Individuals with physical, cognitive, or sensory impairments often encounter challenges when trying to use digital technologies. Educational platforms that do not support screen readers or devices lacking voice-command capabilities can marginalize students who depend on assistive technologies. Likewise, educators with disabilities might encounter challenges that hinder their ability to fully utilize technology, restricting their effectiveness in delivering inclusive instruction.

<p>Assessing Digital Inclusion Efforts</p>	<ul style="list-style-type: none"> - Conduct regular anonymous surveys that allow students to share their experiences with digital tools and highlight any challenges or barriers they encounter. <p>This is an effective way to assess digital inclusion for several reasons²¹:</p> <ul style="list-style-type: none"> - The anonymity encourages students to provide candid feedback, which is crucial for identifying real issues they may hesitate to mention in a non-anonymous setting; - Regular surveys provide continuous insight into the evolving nature of digital inclusion; - Surveys ensure that all students, regardless of their background, can voice their experiences and challenges, helping institutions better understand how different student groups may be disproportionately affected by digital barriers. <ul style="list-style-type: none"> - Peer observation of teaching involves a collaborative and developmental approach where colleagues provide mutual support by observing each other's lessons, engaging in discussions about what was observed, exchanging teaching strategies, gathering student feedback on teaching effectiveness, reflecting on experiences, emotions, and actions, and testing out new methods.²² <p>This practice serves two main functions: fostering development or managing performance. The focus here is on peer observation as a tool for professional growth. It can be structured formally within academic development programs or occur informally, sometimes emerging naturally in team teaching contexts. Research highlights numerous advantages of peer observation, such as enhancing teaching practices, boosting confidence in both teaching and learning, and transforming educational viewpoints.²³</p>
	<p>Through peer observation, teaching practices are no longer confined to individual classrooms but become shared experiences²⁴, encouraging thoughtful reflection, stimulating dialogue about teaching methods, and supporting the spread of effective teaching practices.²⁵</p>

21 Sol, C. (2024). Unlock Honest Reviews with the Best Anonymous Feedback Tools, Retently, <https://www.retently.com/blog/anonymous-feedback-tools/> v

22 Bell, M. (2005). Peer observation partnerships in higher education. (NSW, Australia: Higher Education Research and Development Society of Australasia Inc.)

23 Peel, D. (2005). Peer observation as a transformatory tool? *Teaching in Higher Education*, 10(4), 489-504. <https://doi.org/10.1080/13562510500239125>

24 D'Andrea, V. M. (2002a). Peer review of teaching in the USA. Retrieved January 17, 2006, from http://www.heacademy.ac.uk/resources.asp?id=29&process=full_record§ion=generic

25 Hammersley-Fletcher, L. & Orsmond, P. (2005). Reflecting on reflective practices within peer observation. *Studies in Higher Education*, 30(2), 213-224. <https://doi.org/10.1080/03075070500043358>

	<p>- Evaluating Current Digital Skills, to ensure teachers are equipped to effectively use digital tools in the classroom. It's essential to introduce self-assessment tools, which allow teachers to evaluate their own digital skills and measure their comfort levels with various technologies.</p> <p>Some examples are the <i>Digital Competence Framework</i>, offering a broad reference model to aid in building digital skills specifically for educators in Europe, and the <i>ISTE Standards for Educators</i> (https://iste.org/standards/educators), which encourage peer collaboration, challenge conventional teaching methods, and equip teachers to empower students in becoming self-directed learners.</p>
<p>Strategies for Improving Digital Skills</p>	<ul style="list-style-type: none"> □ Promote continuous professional development: Offer teachers opportunities to participate in workshops, online courses, and conferences focused on enhancing digital skills, while also investing in improving both students' and teachers' digital competencies through a structured evaluation and certification system. <ul style="list-style-type: none"> ○ Workshops: Conduct workshops tailored to specific digital tools, technologies, and techniques that align with the curriculum and teaching methods. ○ Online ICT training: Provide self-paced online courses and tutorials that support online, blended, and flexible learning pathways. □ Establish mentorship programs: Connect experienced teachers with those less familiar with technology to offer guidance and support in improving digital skills. □ Integrate digital tools into lessons: Encourage educators to embed digital resources and tools in their teaching across various subjects. □ Encourage a collaborative teaching environment: Promote teamwork among teachers to share strategies and best practices for using technology effectively in the classroom. □ Ensure access to technical assistance: Provide teachers with reliable technical support and troubleshooting resources when needed.

**Good Practices
for Digital Tech-
nology Inclusion**

eTwinning <https://school-education.ec.europa.eu/en/etwinning>

eTwinning is an EU-funded platform and it's Europe's largest community of teachers active in collaborative projects between schools. It serves as a bridge connecting teachers and schools' staff across Europe. It empowers educators to collaborate on projects and exchange best practices utilizing digital tools. The platform offers professional development opportunities through online courses, webinars, and workshops, enabling teachers to advance their digital skills. Furthermore, teachers are encouraged to engage in digital projects with schools across Europe, integrating ICT into their curricula. Through eTwinning, educators can join a vibrant community of practice that encourages them to embrace a new approach to teaching focused on planning, sharing, and collaboration. This initiative fosters a multicultural environment and offers numerous opportunities for international training and acknowledgment.

Digital Schools of Europe <https://erasmus-plus.ec.europa.eu/projects/search/details/2016-1-FI01-KA101-022472>

This initiative establishes a framework for primary and secondary schools to integrate technology into teaching and learning. It recognizes and certifies schools that exemplify effective digital practices. The aim of the project is to improve schools' knowledge of educational technologies and to foster a culture that promotes the integration of these technologies within the consortium's participating schools. Teachers receive guidance on implementing digital tools in the classroom and benefit from peer support and expert advice to refine their digital teaching strategies. The program prioritizes ongoing professional development and the sharing of digital resources.

The European Schoolnet Academy <https://www.europeanschoolnetacademy.eu/>

It provides free online professional development courses for teachers to enhance their digital skills and integrate innovative practices into education. The courses delve into a broad spectrum of topics, ranging from coding and digital citizenship to STEM education and the utilization of ICT in the classroom. The academy supports teachers with practical strategies for leveraging digital tools in their teaching, empowering them to engage students through interactive, tech-based activities.

ALL DIGITAL <https://all-digital.org/>

It is a pan-European network championing digital inclusion and empowerment. It supports initiatives that assist individuals in enhancing their digital literacy and provides resources for organizations dedicated to bridging the digital divide. They enable our member organizations, which represent non-formal education providers, to assist millions of Europeans in thriving during the digital transformation by offering training and guidance. Annually, they organize the ALL DIGITAL Week campaign, which involves thousands of digital competence centers offering free digital skills training.

Quizzes

1. Which of the following is an example of a basic digital skill?

A) Effective use of email

B) Advanced programming

C) Development of complex software

2. How might COVID-19 have impacted digital inclusion?

A) Improved digital skills for everyone

B) Highlighted the need for digital access

C) Reduced the number of available digital tools

3. How can assistive technologies support students with disabilities?

A) By limiting their interaction with peers

B) By facilitating their engagement in educational activities

C) By replacing traditional teaching methods entirely

4. What type of assessment is useful for monitoring digital inclusion?

A) Year-end evaluations

B) Standardized tests

C) Anonymous surveys

	<p>5. In promoting digital citizenship, which aspect is most crucial for students?</p> <p>A) Understanding digital marketing strategies</p> <p>B) Engaging in online civic activities</p> <p>C) Learning how to code websites</p> <p>6. What does the text suggest is crucial for effective collaboration among educators?</p> <p>A) Sharing best practices and resources</p> <p>B) Competing for funding and resources</p> <p>C) Standardizing all teaching methods across institutions</p> <p>7. What is highlighted as a crucial factor for promoting digital inclusion in educational institutions?</p> <p>A) Increased funding for technology alone</p> <p>B) Developing supportive learning environments</p> <p>C) Limiting access to digital resources to advanced students</p> <p>8. Which factor is identified as a barrier to accessing digital content for non-native speakers?</p> <p>A) Lack of interest in technology</p> <p>B) Cultural and language differences</p> <p>C) Overabundance of resources</p>
	<p>9. What is suggested as a method to ensure teachers are comfortable with digital tools?</p> <p>A) Restricting the use of digital tools in classrooms</p> <p>B) Mandatory attendance in all technology workshops</p> <p>C) Self-assessment of digital skills</p> <p>10. What underlying factor contributes to the varying digital skills among different age groups?</p> <p>A) Educational curriculum differences</p> <p>B) Exposure to technology from a young age</p> <p>C) Economic stability of families</p>
<p>Resources</p>	<p>Digital Competence Framework: https://joint-research-centre.ec.europa.eu/digcompedu_en</p> <p>ISTE Standards for Educators: https://iste.org/standards/educators</p>

