



# ENHANCING DIGITAL EDUCATION

THE DIGIN TRAINER'S GUIDE

2024

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Educators to Support Digital  
Social Inclusion'

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## ABOUT THE GUIDE

The DigIN Multi-Pack Programme for Trainers seeks to revolutionize digital transformation within adult education organisations. It accomplishes this by offering easily adaptable e-courses tailored to empower trainers proficient in digital technologies. By doing so, the programme aims to elevate the quality of online andragogy-based digital skills development for adult educators.

With specific objectives in mind, the programme endeavours to establish an e-platform exclusively dedicated to the development of digital competencies for adult educators and learners. Additionally, it aims to create tailored guidance and tutorials, with a particular emphasis on addressing the needs of vulnerable adults and educators working with vulnerable groups.

In its methodology, the DigIN Multi-Pack Educational Programme employs the 5E Model of Instruction. This model structures lessons and activities, ensuring optimal learning experiences for adult learners. By promoting active learning and sequential progress through engagement, exploration, explanation, development, and assessment phases, the programme facilitates effective skill acquisition.

Aligned with five broad areas, the programme's learning objectives focus on instilling essential digital competencies. These competencies include information and data processing, communication in digital environments, content creation, safety, and problem-solving skills.

The DigIN Multi-Pack Educational Programme caters to diverse target groups. This includes trainers and other adult education staff seeking to enhance their digital skills for effective adaptation to digital education. Moreover, it serves adults aged 55 and above requiring digital skills for accessing support services, medical appointments, and welfare activities. Additionally, it supports adult education organizations in empowering adults to become active technology users through innovative digital education ecosystems.

Accessible to all individuals, the course requires only a personal computer or mobile device connected to the internet. Registration is facilitated through the DigIN e-learning platform managed by the DigIN consortium.

Upon completion of the programme, participants will acquire proficiency in various digital competencies, including data literacy, communication, digital content creation, safety, and problem-solving.

The DigIN Multi-Pack Educational Programme encompasses courses covering five competence areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. Each course offers interactive learning, diverse learning methods, optional live sessions with tutors, recorded podcasts, and guided critical thinking exercises through reflective workbooks.

## INTRODUCTION

The introduction to Digital Competencies within DigComp is a key element for educators who strive to effectively educate individuals in the digital age. The European Commission identifies five important areas of digital competence that are essential for the full use of information technologies. This handbook focuses on these areas, namely: Information and data; Communication and cooperation; Digital content creation; Security; and Troubleshooting.

For educators, understanding these areas becomes a key tool in providing a comprehensive and up-to-date approach to teaching digital skills. This includes not only imparting basic information but also developing adult learners' ability to use technology effectively in modern society. In the following chapters of the handbook, we will deal with each of these areas in detail, analysing their importance and offering practical tips for the effective integration of digital competencies in the education process.

The first three competence areas within DigComp - Information and Data, Communication and Collaboration, and Digital Content Creation - are closely related to specific activities and applications. They constitute a specific foundation of skills that can be directly linked to specific practices and the use of digital technologies. In turn, the fourth and fifth areas, Security and Problem Solving, are characterized as "cross-sectional". This means that these competencies are universally applicable, covering any type of business conducted via digital means. Security is a key aspect in all areas, protecting against potential threats, while problem-solving competencies are important in all aspects of the use of digital technologies, although isolated to emphasize their importance.

It should be noted that digital competencies consist not only of knowledge but also of skills and attitudes. They are a combination of specific information (knowledge), the ability to take practical action (skills), and attitudes and approaches to using technology (attitudes). This holistic model consists of concepts, facts and specific skills, which translates into a full understanding of digital competencies in the context of DigComp. Key competencies are developed throughout life.



DIGIN educational materials for adult learners will follow the 5E2 instructional model (Engage, Explore, Explain, Develop and Evaluate) and assessment (summative and formative).

The model will promote a learning system that occurs sequentially, allowing adult participants to move from one stage to the next.

## **ENGAGEMENT PHASE**

In the first step of the teaching process, instructors initiate the lesson by applying an activity or task that is intended to engage adult learners. They will start with questions or exercises that are intended not only to intrigue participants but also to provide an opportunity to share their current knowledge on a given topic. In this activity phase, instructors support participants in making connections between their already acquired knowledge and new concepts that will emerge during the lesson. The goal of this approach is not only to activate adult learners but also to help them recall and apply their existing knowledge base in the context of new material.

Trainers are advised to use a KWL chart, which is a graphic organizer designed to assist adults in the learning process. The letters KWL are an acronym meaning what adult learners already **K**now, **W**ant to know and ultimately **L**earn during the lesson.

In this particular methodology, adult learners have space to learn by constructing their own learning pace and style of understanding a given topic or idea. The KWL table is usually divided into three columns: I know, I want and I have learned.

The KWL chart is useful for conducting formative assessments in the classroom. It allows trainers to find out what an adult learner's prior knowledge of a given topic is. Based on this knowledge, trainers can then adjust their lessons based on this information.

The KWL chart can be completed by starting with each digital competence area [21 competencies digital]. The areas of digital competence include the ability to use information and data, communication and collaboration, digital content creation, security and problem-solving.

Competencies include specific activities (such as searching for digital information, creating content and online communication) and transversal competencies that apply to all online activities (security and troubleshooting). The KWL chart is divided into three columns—one for each letter—under which adult learners record:

<b>K</b> What they already <b>know</b> about the topic	<b>W</b> What they <b>want to know</b> (or questions they have) about the topic	<b>L</b> What they <b>learned</b> (after the lesson or assignment)

KWL charts are effective tools for engaging adult learners in the learning process, helping them recall knowledge, and tracking their learning progress. While they are often used to help adult learners improve their reading comprehension, KWL charts can be applied to any topic or lesson.

## DISCOVERY PHASE

Engagement is followed by exploration in which adult learners engage in hands-on activities. Their experiments or other interactions with the material deepen their understanding of the content.

At this stage, DigIN trainers are advised to use brainstorming, sharing thoughts in pairs, trainer demonstrations or procedural tasks that adult learners perform and repeat independently. This interpretation of exploration often tries to rely on the excitement of the engagement phase to encourage adult learners to independently complete a task or practice a practical activity.

"Think-pair-share (TPS)" is an instructional method where learners work together and attempt to answer questions or solve problems on a given text. This strategy requires adult learners to (1) think independently about a subject or answer a question; and (2) share their thoughts with classmates. Guidelines for discussions will be given.

Observe and guide adult learners as they do the following:

- T (Think): Trainers start by precisely asking open-ended questions about the text. Adult learners stop to reflect and recall what they know about a topic.
- P (Pair): Adult learners are put into pairs or small groups.
- S (Share): Sharing is a good opportunity for participants to express their thoughts partners. Trainers extend "sharing" to whole-class discussion through the engagement of adult learners.

<b>A template can be used with your learners</b>		
<b>Think</b>	<b>Pair</b>	<b>Share</b>
Individually, write down three thoughts you have about this question or problem:	During class discussions, debate your ideas with your partner. Put a check by any ideas, above, that your Partner also wrote down. Then, write down the concepts you had but your partner did not have	Evaluate all of your thoughts and write the one you think is most significant. Choose amongst yourself the one to present This idea with the whole class.

### **EXPLANATION PHASE:**

After completing the exploration, participants move to the explanation phase, in which they try to understand and explain what they have experienced and learned during the previous stages. In this phase, they use the help of trainers, which helps them fully understand the concepts through their own words. Authentic explanation requires the participant to engage in the thought process, reasoning with available evidence, and developing connections between various concepts, experiences, content, and acquired skills. Trainers in this phase may provide additional details or explanations to fully facilitate understanding.

### **DEVELOPMENT PHASE:**

Participants then move on to the elaboration phase, where they develop their knowledge by applying the acquired skills in new situations. In this stage, participants are encouraged to put their knowledge into practice to deepen their skills. A well-founded explanation requires thought development and full commitment to translating and interpreting the acquired knowledge. This is the stage in which participants actively confront new contexts and situations, which contributes to a more complete understanding of the topic.

**ASSESSMENT PHASE:**

In the final, or assessment, phase, participants self-assess, reflect on what they have learned, and provide evidence of their new understanding of the material. This phase requires participants to reflect and incorporate their current understanding into the decision-making process. Participants assess their progress, reflect on their understanding and apply their knowledge in the context of decision-making and problem-solving. The assessment phase is the final step in the process of developing and testing participants' understanding. Adult learners should assess the entire learning cycle, each task or learning process.

## COMPETENCE AREA: INFORMATION AND DATA LITERACY

Competences related to searching for information and navigating digital environments are extremely important in today's world, which is characterized by a huge amount of available content and technologies. Below is a detailed description of these competencies:

1. Expressing information needs: This competence element involves the ability to identify one's own information needs. This means the ability to understand what specific information is needed in a particular context or for a purpose. This may include defining the objectives of the information search, determining the key questions to ask, and analysing what is important to achieving the intended results.
2. Searching for data, information and content in digital environments: This competence covers the ability to effectively search for different types of data, information and content on the Internet and other digital sources. This requires knowledge of various search tools and techniques, such as search engines, databases, social networking sites, etc. It is also important to understand how to assess the credibility and quality of the information found.
3. Accessing information: This aspect of competence refers to the ability to effectively find information at the right time and place. This includes the ability to use different sources and tools to access the data and content you need. This may require knowledge of the specifics of different digital platforms and the ability to adapt to different user interfaces.
4. Moving between digital environments: Nowadays, it is important not only to find information but also to be able to move between different digital environments to integrate and use the collected data. This means the ability to transfer information between different applications, platforms or systems to effectively use it to achieve specific tasks or goals.
5. Creating and updating your search strategies: This competency involves the ability to independently develop and refine information search methods that meet

individual needs and goals. This includes consciously selecting appropriate search tools and techniques, experimenting with different strategies, and learning on the fly to adapt your approaches to changing needs and conditions.

Overall, competencies related to expressing information needs, searching for and accessing data, and navigating between digital environments are crucial to operating effectively in today's information world, where access to the right information and the ability to use it are key success factors.

The DigComp framework defines five key areas of digital competencies, one of which is "Information and Data". Below you will find some important information about this area of competence.

#### *DESCRIPTION OF THE COMPETENCE AREA:*

- The "Information and Data" area focuses on skills related to effective information and data management in the digital environment.
- This includes the ability to identify, collect, analyse, evaluate and present information and data using digital tools.

#### *COMPETENCE CATEGORIES:*

- Understanding the structure of information and data.
- Ability to use various sources of information to obtain data.
- Analysis and assessment of the credibility of information.
- Effective data storage and organization.
- Ability to present information.

#### *APPLICATION EXAMPLES:*

- Searching for information on the Internet.
- Assessment of the credibility of information sources.

- Creating and managing databases.
- Analysis and interpretation of statistical data.
- Creating clear and attractive presentations.

#### *MEANING IN SOCIAL AND PROFESSIONAL CONTEXT:*

- In a society based on information and technologies, the ability to effectively manage information becomes a key competence.
- In a professional context, employees who can use information and data effectively are more effective and competitive.

#### *ROLE IN THE DEVELOPMENT OF DIGITAL COMPETENCIES:*

- The "Information and Data" area is the foundation for other areas of digital competence because the correct use of information and data is crucial for effective operation in the digital environment.
- Developing skills in this area enables individuals to better cope with the overload of information available in today's world.

#### *SAMPLE TOOLS AND TECHNOLOGIES:*

- Internet search engines.
- Data and information management applications.
- Data analysis tools such as spreadsheets.
- Data presentation applications, e.g. charting programs.

The "Information and Data" competence area at DigComp is an important element supporting the development of digital skills, enabling individuals to effectively operate in the digital environment surrounding them.

## **BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT**

Browsing, searching and filtering data, information and digital content are key activities in the information age, where vast amounts of information are available online. Below is a detailed discussion of these processes:

1. Browsing data, information and digital content: The browsing process involves actively examining and viewing various digital resources to gain an overall understanding of a topic. This is often the first step in finding the information you need. Browsing may include reading articles, watching videos, viewing photos, or analysing data in the form of tables or graphics.
2. Searching for data, information and digital content: Searching is the process of actively searching for specific information or content among available digital resources. This requires defining the purpose of the search and using appropriate tools and search strategies, such as Internet search engines, databases or online catalogues.
3. Filtering data, information and digital content: Filtering involves selecting and limiting a set of data and information to those that are most relevant and useful for specific purposes. It is the process of analysing and assessing available resources in terms of their value, credibility, timeliness and compliance with user needs.
4. The process of browsing, searching and filtering data, information and digital content involves several key steps:
5. Defining the goal: The first step is to clearly define the purpose of the search. Are we looking for information on a specific issue, statistical data or entertainment content?
6. Defining Search Criteria: Next, you need to define the criteria that will guide the search process. Depending on the context, these may be, for example, keywords, thematic categories, dates or information sources.
7. Use of search tools: Searching for data and information is often based on the use of various tools, such as Internet search engines (e.g. Google, Bing), databases (e.g. PubMed, Scopus) or specialized industry platforms.



8. Analysis and evaluation of results: After searching, the results obtained should be analysed for their appropriateness and usefulness. The credibility of the sources, the timeliness of the information, its compliance with expectations and its usefulness in the context of a specific purpose are assessed.
9. Selection and filtration: Based on the analysis of the results, you should select and filter data and information to choose those that best suit your needs and goals. This may include eliminating low-quality sources, selecting the most up-to-date data, or limiting the scope of the search to specific topic areas.

Browsing, searching and filtering data, information and digital content is a comprehensive process that requires users to be able to analyse, evaluate and select resources to find relevant information and data in the online environment. The effective use of these processes can contribute to the effective acquisition of knowledge and solving problems in various areas of life.

### **Set of exercises for learners**

Here is a set of exercises for learners on browsing, searching and filtering data, information and digital content, adapted for adult learners:

Purpose	The purpose of this practical activity is to enhance participants' skills in critically evaluating digital content using the CRAAP Test criteria, thereby promoting digital literacy and responsible information consumption.
Title of the practical activity:	Digital Content Evaluation Workshop
Time	90 minutes
Target group	Adult learners who are interested in improving their ability to evaluate the credibility and reliability of digital information.
Learning outcomes	Develop proficiency in applying the CRAAP Test criteria to evaluate digital content. Enhance critical thinking skills in assessing the relevance, authority, accuracy, and purpose of online information. Understand the importance of digital literacy in navigating the digital landscape effectively.

Materials	<p>Handouts explaining the CRAAP Test criteria</p> <p>Laptops or tablets with internet access for each participant</p> <p>Sample digital content for evaluation (e.g., articles, websites, social media posts)</p> <p>Whiteboard and markers</p>
Facilitation steps	<p><b>Engage:</b> Begin by discussing the importance of critically evaluating digital content in today's information-rich environment. Encourage participants to share their experiences with encountering misleading or unreliable information online.</p> <p><b>Explore:</b> Introduce the CRAAP Test criteria (Currency, Relevance, Authority, Accuracy, Purpose) and explain each criterion in detail. Provide examples of how each criterion can be applied to evaluate digital content effectively.</p> <p><b>Explain:</b> Divide participants into small groups and assign each group a piece of sample digital content to evaluate using the CRAAP Test criteria. Encourage participants to discuss their findings and apply the criteria to determine the credibility and reliability of the content.</p> <p><b>Elaborate:</b> After the group discussions, reconvene as a whole group and ask each group to present their evaluation findings. Facilitate a discussion on the similarities and differences in the evaluations and encourage participants to reflect on the challenges they encountered during the evaluation process.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and reinforcing the importance of digital literacy and critical thinking skills in evaluating online information. Encourage participants to continue practising the CRAAP Test criteria in their future online activities.</p>
Methods	<p>Group discussions and collaboration</p> <p>Hands-on evaluation of digital content</p> <p>Presentation of evaluation findings</p> <p>Reflection and discussion</p>
Evaluation	<p>Assess participants based on their ability to effectively apply the CRAAP Test criteria to evaluate digital content. Evaluate their critical thinking skills, communication skills, and understanding of digital literacy principles. Solicit feedback from participants on the workshop content and structure to inform future sessions.</p>
Reference, events and further reading	<p>Meriam Library California State University, Chico - CRAAP Test (Website)</p> <p>"Digital Literacy: Evaluating Online Information" workshop (Event)</p> <p>"Critical Thinking in the Digital Age" online course (Website)</p>

## **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can we improve the efficiency of the browsing process to quickly gain a comprehensive understanding of a topic?
2. What strategies can be implemented to enhance the accuracy and relevance of search results when using various search tools?
3. What criteria should be prioritized when filtering data and information to ensure the highest quality and most relevant content?
4. How can the process of defining search criteria be optimized to better align with the specific goals and needs of the user?
5. What methods can be used to effectively analyze and evaluate the credibility and timeliness of search results to make informed decisions?

## EVALUATING DATA, INFORMATION AND DIGITAL CONTENT

Assessment of data, information and digital content is a key process that involves critically analysing, interpreting and assessing available digital resources in terms of their credibility, value and suitability in the context of specific objectives. Below is a detailed description of this process:

1. **Source Analysis:** The first step in evaluating data, information and digital content is to analyse the sources from which they come. It is important to investigate the author or creator, institution or organization that is involved in publishing this content. Checking the source's reputation and credibility can provide important clues about the value of the information.
2. **Credibility and objectivity:** The next step is to assess the credibility and objectivity of the source. Does the source present facts based on reliable research and evidence, or does it contain subjective opinions or disinformation? Some tools and methods can help assess the credibility of a source, such as source checking, analysing tone or style, examining potential conflicts of interest, etc.
3. **Up-to-datedness:** In the context of data, information and digital content, an important evaluation criterion is their up-to-datedness. Is the information current and reflects the latest events, research or discoveries? Older data may be less valuable, especially in fields that are changing rapidly.
4. **Relevance:** Another evaluation criterion is the relevance of data, information and content in the context of the user's specific goals and needs. Is the content related to the topic being explored or does it address specific questions or issues? When assessing relevance, attention should be paid to the context and purpose for which the information is sought.
5. **Presentation quality:** It is also worth assessing the quality of the presentation of data and information. Is the content clear, understandable and well-organized? Does it contain adequate support in the form of sources, links or illustrations? The quality of the presentation may affect the understanding and interpretation of the content.
6. **Added value:** Ultimately, an important criterion for assessing data, information and digital content is their added value. Does the material provide new knowledge,

perspective or inspiration? Can it be useful in the context of research, education, professional or personal work?

The evaluation of data, information and digital content therefore requires the user to be able to critically analyse, interpret and evaluate available resources. By considering the above criteria, the evaluator can effectively select the most valuable and useful sources of information to achieve his or her goals.

### **Set of exercises for learners**

Here is an adult learner activity pack for evaluating data, information and digital content, adapted for adult learners:

Purpose	The purpose of this practical activity is to enhance participants' skills in evaluating data, information, and digital content critically, with a focus on accuracy, relevance, objectivity, and credibility.
Title of the practical activity:	Digital Content Evaluation Workshop: Ensuring Quality and Reliability
Time	90 minutes
Target group	Adult learners who are interested in improving their ability to assess the quality and reliability of digital content for research, decision-making, and informed use.
Learning outcomes	Develop proficiency in evaluating data, information, and digital content based on predefined standards such as accuracy, relevance, objectivity, and credibility. Enhance critical thinking skills in analyzing sources, methodologies, and integrity of digital content. Understand the importance of cross-validation, consultation with experts, and fact-checking in ensuring the authenticity of information. Gain practical strategies for efficiently evaluating digital content to make informed decisions in personal and professional contexts.
Materials	Handouts explaining evaluation criteria and techniques Laptops or tablets with internet access for each participant Sample digital content for evaluation (e.g., articles, websites, multimedia) Evaluation checklists or criteria sheets Whiteboard and markers

Facilitation steps	<p><b>Engage:</b> Start by discussing the importance of evaluating digital content for accuracy, relevance, objectivity, and credibility. Encourage participants to share their experiences with encountering misinformation or unreliable information online.</p> <p><b>Explore:</b> Introduce various evaluation techniques and criteria, including cross-validation, consultation with experts, and fact-checking. Provide examples of how these techniques can be applied to assess the quality and reliability of digital content.</p> <p><b>Explain:</b> Divide participants into small groups and assign each group a piece of sample digital content to evaluate using the provided evaluation criteria. Encourage participants to analyze the content thoroughly and discuss their findings within their groups.</p> <p><b>Elaborate:</b> After the group discussions, reconvene as a whole group and ask each group to present their evaluation findings. Facilitate a discussion on the similarities and differences in the evaluations and encourage participants to reflect on the challenges they encountered during the evaluation process.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and reinforcing the importance of critical thinking and evaluation skills in navigating the digital landscape. Encourage participants to continue practising these skills in their daily online activities and provide resources for further learning.</p>
Methods	<p>Group discussions and collaboration</p> <p>Hands-on evaluation of digital content</p> <p>Presentation of evaluation findings</p> <p>Reflection and discussion</p>
Evaluation	<p>Assess participants based on their ability to effectively apply evaluation techniques and criteria to assess the quality and reliability of digital content. Evaluate their critical thinking skills, communication skills, and understanding of evaluation principles. Solicit feedback from participants on the workshop content and structure to inform future sessions.</p>
Reference, events and further reading	<p>Landøy, A., Popa, D., &amp; Repanovici, A. (2020). [Insert full citation].</p> <p>Muhammed, T. S., &amp; Mathew, S. K. (2022). [Insert full citation].</p> <p>Broda, E., &amp; Strömbäck, J. (2024). [Insert full citation].</p> <p>Fact-Checking Resources: [List of fact-checking websites or tools].</p> <p>Further Reading: [Recommended books, articles, or online resources on digital content evaluation].</p>

Thanks to these exercises, adult learners will be able to practically develop their skills in assessing data, information and digital content and improve their ability to analyse and critically evaluate various sources of information in the online environment.

## **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can we effectively analyze and assess the credibility of digital content sources, considering factors such as authorship, institutional affiliations, and reputation?
2. What methods and tools can be employed to discern the objectivity of digital content sources, distinguishing between factual information and subjective opinions or disinformation?
3. How do we ensure that the digital content being evaluated is up-to-date and reflects the latest developments, research findings, or events, particularly in rapidly evolving fields?
4. What strategies can be implemented to evaluate the relevance of digital content to specific user goals and needs, considering factors such as topic alignment and contextual suitability?
5. In what ways can we assess the presentation quality of digital content, including factors such as clarity, organization, and the availability of supporting materials like sources, links, or illustrations, to enhance understanding and interpretation?

## MANAGING DATA, INFORMATION AND DIGITAL CONTENT

Data, information and digital content management is a comprehensive process that involves collecting, storing, organizing, processing, sharing and controlling data and information in a digital environment. Below is a detailed description of this process:

1. **Data and information collection:** The first step in managing data, information and digital content is to collect the appropriate resources. This may include collecting data from various sources, such as databases, text files, multimedia, educational materials, reports, documents, or user-generated content (e.g. social media posts).
2. **Data and information storage:** The next step is to store the collected data and information in appropriate systems or digital tools. There are many storage methods, such as databases, cloud computing, hard drives, network servers, or specialized content management software (CMS).
3. **Organizing data and information:** Organizing data and information is crucial to managing it effectively. This involves categorizing, indexing and tagging resources in such a way that they are easily accessible and understandable to users. Various organization methods can be used, such as folder structures, tag hierarchies, or classification systems.
4. **Data and information processing:** Another important step is the processing of data and information to obtain valuable conclusions and knowledge. This may include analysing data, generating reports, creating data visualizations, drawing conclusions, or identifying trends and patterns.
5. **Sharing and sharing of data and information:** Managing data and information also requires appropriate sharing and sharing within the organization or with external audiences. This can be implemented through document management systems, intranets, web portals, online collaboration tools or social media platforms.
6. **Controlling access and security:** An important aspect of managing data, information and digital content is controlling access to them and ensuring an appropriate level of security. It should be determined who has the right to access particular data and information, what are the rules for their use and what security measures are used to protect the confidentiality, integrity and availability of data.



- Monitoring and improvement: Ultimately, managing data, information and digital content requires continuous monitoring and improvement of processes and practices. You should regularly assess the effectiveness of your management systems, identify areas for improvement and adapt strategies as needs and requirements change.

Managing data, information and digital content is a complex process that requires users to have skills in planning, organization, analysis, collaboration and awareness of data security and privacy. Correctly managing these resources can bring many benefits, including increased work efficiency, improved information availability, improved decision-making and achieving strategic organizational goals.

### **Set of exercises for learners**

Here's an adult learner activity pack on managing data, information and digital content, tailored for adult learners:

Purpose	The purpose of this practical activity is to equip adult learners with the skills and knowledge necessary to effectively manage data, information, and digital content in both personal and professional contexts.
Title of the practical activity:	Data Management Workshop: Navigating the Digital Landscape
Time	90 minutes
Target group	Adult learners interested in enhancing their digital literacy and data management skills.
Learning outcomes	<p>Understand the importance of digital literacy and its role in managing data, information, and digital content.</p> <p>Gain knowledge of fundamental concepts such as data governance, data lifecycle management, and digital content management.</p> <p>Familiarize with technological tools and platforms for efficient data and information management.</p> <p>Develop strategies for prioritizing security and privacy in data management practices.</p> <p>Recognize the importance of lifelong learning and adaptation in the rapidly evolving field of technology.</p>

Materials	<p>Handouts summarizing key concepts and techniques in data management</p> <p>Whiteboard and markers</p> <p>Laptops or tablets with internet access for each participant</p> <p>Sample data management frameworks and best practices</p> <p>Case studies illustrating real-world data management scenarios</p> <p>Security and privacy guidelines and resources</p>
Facilitation steps	<p><b>Engage:</b> Begin the workshop by discussing the importance of digital literacy and data management skills in today's digital landscape. Encourage participants to share their experiences and challenges related to managing data and digital content.</p> <p><b>Explore:</b> Introduce key concepts such as data governance, data lifecycle management, and digital content management. Provide examples and case studies to illustrate these concepts and their relevance in personal and professional contexts.</p> <p><b>Explain:</b> Discuss various technological tools and platforms used for data and information management, such as content management systems (CMS), data analytics software, and collaborative tools. Demonstrate how these tools can streamline processes and improve productivity.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a case study or scenario related to data management. Encourage participants to analyze the scenario, identify key issues, and propose solutions based on the concepts and techniques discussed.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and reinforcing the importance of ongoing education and adaptation in the field of data management. Encourage participants to reflect on how they can apply the knowledge and skills gained in their personal and professional lives.</p>
Methods	<p>Group discussions and collaboration</p> <p>Hands-on analysis of case studies and scenarios</p> <p>Demonstration of technological tools and platforms</p> <p>Reflection and discussion on personal experiences and challenges</p>
Evaluation	<p>Assess participants based on their understanding of key concepts, ability to apply techniques in real-world scenarios, and engagement in group discussions and activities. Solicit feedback from participants on the workshop content, structure, and effectiveness to inform future sessions.</p>
Reference, events and further reading	<p>Digital Literacy for Dummies - Gura, M. (2018)</p> <p>Data Governance: How to Design, Deploy, and Sustain an Effective Data Governance Program - Seiner, R. S. (2014).</p> <p>The Art of Data Science: A Guide for Anyone Who Works with Data - Peng, R. D., &amp; Matsui, E. (2016).</p> <p>The Fourth Industrial Revolution - Schwab, K. (2016).</p> <p>Lifelong Learning in the Digital Age: A Content Analysis of Recent Research on Participation - Boeren, E., &amp; Holford, J. (2016).</p>

Thanks to these exercises, adult learners will be able to practically develop their skills in managing data, information and digital content and improve their strategies for organizing and using digital resources.

### **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can we optimize the process of collecting data, information, and digital content from various sources to ensure completeness and relevance?
2. What factors should be considered when selecting storage methods for collected data and information, and how do these choices impact accessibility, security, and scalability?
3. What strategies can be employed to effectively organize and categorize data and information, ensuring ease of access and understanding for users?
4. How can data and information processing techniques such as analysis, visualization, and trend identification be leveraged to derive meaningful insights and support decision-making processes?
5. What are the best practices for sharing and disseminating data and information within an organization or with external stakeholders, considering factors such as accessibility, security, and collaboration requirements?

## COMPETENCE AREA: COMMUNICATION AND COLLABORATION

The digital competence area "Communication and Collaboration" in the DigComp framework refers to the ability to effectively communicate, collaborate and participate in digital interactions in various contexts.

- **Basic skills:** Within this area of digital competencies, skills such as verbal and non-verbal communication in a digital environment, team collaboration using online tools, and the ability to express one's thoughts and ideas clearly and understandably to others should be developed.
- **Information exchange:** Communication and collaboration competencies also include the ability to effectively share information, convey content and use various communication tools and platforms, such as e-mail, chats, discussion forums and document-sharing platforms.
- **Remote collaboration:** Today's work environment increasingly requires remote collaboration. Therefore, communication and collaboration competencies in the context of the DigComp framework include the ability to operate effectively virtually, organize online meetings, share resources, and build team relationships despite physical separation.
- **Conflict resolution:** Within this competence area, it is also important to have the ability to resolve conflicts and build positive relationships in the digital environment. This includes the ability to deal with disagreements, negotiate, and build mutual respect and trust in online relationships.
- **Ethics and security:** In the context of communication and collaboration in the digital environment, issues related to online ethics and security are also extremely important. Competencies in this area include awareness of online threats, the ability to properly use digital tools safely, and respecting ethical principles when communicating online.

In short, the digital competence area "Communication and Collaboration" within the DigComp framework focuses on developing the skills of effective communication,

collaboration and building relationships in the digital environment, taking into account both technical and social aspects.

#### *DESCRIPTION OF THE COMPETENCE AREA:*

- The "Communication and Collaboration" area focuses on skills related to effective communication and cooperation in the digital environment.
- This includes the ability to communicate effectively, both in written and verbal form, using digital tools, and the ability to collaborate effectively in teams via online platforms.

#### *COMPETENCE CATEGORIES:*

- Ability to express thoughts clearly and understandably in writing and verbally.
- Ability to use various online communication tools.
- Virtual collaboration and the ability to effectively share information within a team.
- Ability to effectively participate in online discussions and group work.

#### *APPLICATION EXAMPLES:*

- Maintaining clear e-mail correspondence.
- Using video conferencing platforms.
- Co-creating documents online.
- Participating in discussions and thematic groups on social media.
- Effective time management in online communication.

#### *MEANING IN SOCIAL AND PROFESSIONAL CONTEXT:*

- The ability to communicate and collaborate effectively online is essential in today's digital society, especially in remote work and geographically dispersed teams.
- In a professional context, people with these competencies are more flexible and adapt better to dynamic labour market conditions.

### *ROLE IN THE DEVELOPMENT OF DIGITAL COMPETENCIES:*

- The 'Communication and Collaboration' area is a key element in the development of digital skills, enabling individuals to effectively navigate the digital work environment and society.
- Improving these competencies translates into better team relationships, more efficient communication and increased productivity at work.

### *SAMPLE TOOLS AND TECHNOLOGIES:*

- Video conferencing platforms such as Zoom or Microsoft Teams.
- Online collaboration tools, such as Google Workspace or Microsoft 365.
- Text messaging apps like Slack or Microsoft Teams.
- Social platforms for information exchange and collaboration, e.g. LinkedIn or Facebook Groups.

The "Communication and Collaboration" competency area at DigComp provides an important foundation supporting the development of digital skills, enabling individuals to communicate and collaborate effectively in an online environment.

## INTERACTING THROUGH DIGITAL TECHNOLOGIES

Communication using digital technologies refers to the process of transmitting information, communicating and collaborating using various online tools and platforms. This includes all forms of electronic communication that enable interaction between people in a digital environment. Below is a detailed description of communication using digital technologies:

1. **Communication platforms:** Many online platforms allow you to communicate with others, such as chat rooms, instant messaging, video conferencing platforms, and social media. Thanks to them, users can conduct text, voice or video conversations in real-time from any location.
2. **Emails:** Email is one of the most popular ways of communicating for business and personal use in the digital environment. It allows you to send text messages, attachments, photos or documents to one or many people via the Internet.
3. **Communication on social media applications:** Social media such as Facebook, Twitter, Instagram and LinkedIn allow users to post content, comment, share and communicate directly with other users. They are also often used for business and marketing communications.
4. **Videoconferencing:** Videoconferencing tools such as Zoom, Skype or Microsoft Teams enable online meetings, presentations, training and remote consultations. Thanks to them, users can see and hear each other, share the screen and collaborate in real-time.
5. **Communication in online games:** Online games often use voice or text communication features that enable players to collaborate, communicate strategies, and build virtual communities.
6. **Communication in distance education:** In the context of distance learning, e-learning platforms, content management systems (CMS), and video conferencing tools are used for communication between trainers and adult learners, as well as for conducting classes, sharing educational materials, and assessing adult learners.

Communication using digital technologies offers many opportunities and benefits, such as speed, ease of use, accessibility from anywhere, and the ability to interact with other users around the world. At the same time, it requires awareness of data security threats and the ability to use digital tools responsibly and effectively.

### Set of exercises for learners

Here's an adult learner activity pack on managing data, information and digital content, tailored for adult learners:

Purpose	The purpose of this practical activity is to reinforce the skills developed through interaction via digital technologies, focusing on communication, collaboration, and problem-solving
Title of the practical activity:	Digital Skills Collaboration Challenge
Time	90 minutes
Target group	Adult learners who have recently undergone training in digital skills and are looking to apply their knowledge in a face-to-face setting.
Learning outcomes	Enhance communication and collaboration skills in a face-to-face environment. Apply digital competencies to solve real-world problems. Foster teamwork and problem-solving abilities.
Materials	Whiteboard and markers Sticky notes Printed scenarios or problem-solving tasks (related to real-world challenges)
Facilitation steps	<b>Engage:</b> Begin by discussing the importance of effective communication and collaboration skills in both digital and face-to-face environments. Encourage participants to share their experiences with using digital technologies for communication and problem-solving. <b>Explore:</b> Divide participants into small groups (3-5 members per group). Provide each group with a scenario or problem-solving task related to a real-world challenge. For example, solving a logistical problem, brainstorming marketing strategies for a product, or planning an event. <b>Explain:</b> Explain the task clearly, emphasizing that participants need to apply their digital competencies to find solutions. Encourage them



	<p>to use techniques such as brainstorming, mind mapping, or using digital tools they are familiar with.</p> <p><b>Elaborate:</b> Give the groups 30-40 minutes to work on their tasks. Circulate among the groups to provide guidance and support as needed. Encourage participants to communicate effectively, delegate tasks, and utilize their digital skills to find innovative solutions.</p> <p><b>Evaluate:</b> After the allotted time, reconvene as a whole group. Each group presented their solution, explaining the process they used and the digital tools they employed. Encourage feedback and discussion among the groups.</p>
Methods	<p>Group brainstorming</p> <p>Problem-solving exercises</p> <p>Role-playing scenarios</p> <p>Peer evaluation and feedback</p>
Evaluation	<p>Assess participants based on their ability to communicate effectively, collaborate with their team members, and apply digital skills to solve real-world problems. Evaluate their creativity, teamwork, and the practicality of their solutions.</p>
Reference, events and further reading	<p>Digital Skills for Today's Workplace by John Doe (Book)</p> <p>Effective Communication in the Digital Age" workshop (Event)</p> <p>Collaboration Tools for Teamwork online course (Website)</p>

## Brainstorming Sessions

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can we leverage various communication platforms, such as chat rooms and video conferencing, to facilitate real-time interactions and collaboration among users from different locations?
2. What strategies can be employed to enhance email communication effectiveness, including managing attachments, ensuring message clarity, and optimizing response times?
3. In what ways can social media applications be utilized for both personal and business communication purposes, including content sharing, direct messaging, and engagement with followers?

4. How can organizations optimize the use of video conferencing tools for remote meetings, presentations, and training sessions, ensuring seamless collaboration and effective communication?
5. What approaches can be taken to maximize communication effectiveness within online gaming environments, fostering teamwork, strategy development, and community building among players?

## SHARING THROUGH DIGITAL TECHNOLOGIES

Sharing information and resources using digital technologies refers to the process of sharing and exchanging data, content, files and other digital resources using various online tools and platforms. This process enables quick, easy and effective communication and collaboration between people in different environments and contexts. Here is a detailed description of this process:

1. **File sharing platforms:** There are many online platforms such as Google Drive, Dropbox and OneDrive that allow users to store, share and collaborate on files in the cloud. Users can easily share files with others, manage them, edit them together in real-time, and track the history of changes.
2. **Social sharing platforms:** Social media such as Facebook, Twitter, Instagram and LinkedIn allow users to post, share and comment on a variety of content such as photos, videos, articles and posts. Thanks to them, users can easily share information with others and build relationships and communities online.
3. **Online collaboration tools:** There are specialized online collaboration tools and platforms, such as Microsoft Teams, Slack, and Trello, that allow users to share projects, manage tasks, communicate in real-time, and coordinate teamwork. Thanks to them, teams can effectively collaborate on a project, regardless of their location.
4. **Educational platforms:** In the context of education, there are educational platforms such as Moodle, Google Classroom and Edmodo that enable trainers and adult learners to share educational materials, conduct online classes, and communicate and evaluate adult learners' work. Thanks to them, learning can take place remotely and interactively.
5. **Digital libraries:** Digital libraries such as Europeana, the Digital Public Library of America, and the Internet Archive provide vast digital resources such as books, articles, photos, and recordings that are available to users around the world. Users can freely browse, search and download resources from these libraries.

Sharing information and resources using digital technologies is becoming more common and important in the digital age. This allows for quick and effective communication,

cooperation and exchange of knowledge and experiences between people, regardless of their geographical or temporal location. At the same time, it requires awareness of data security and the ability to use digital tools responsibly and effectively.

### Set of exercises for learners

Here is a set of adult learner activities on sharing information and resources using digital technologies, adapted for adult learners:

Purpose	The purpose of this practical activity is to reinforce the skills developed in sharing through digital technologies, focusing on effective sharing of educational resources and fostering collaboration in a face-to-face setting
Title of the practical activity:	Digital Resource Sharing Workshop
Time	90 minutes
Target group	Adult learners who have recently undergone training in digital skills and are interested in further enhancing their abilities to share educational content effectively.
Learning outcomes	Develop proficiency in sharing educational resources through digital platforms. Enhance collaboration skills by working together to curate and share resources. Understand the importance of security and privacy when sharing digital content
Materials	Laptops or tablets with internet access Whiteboard and markers Printed examples of educational resources (articles, presentations, videos, etc.) Sticky notes Handouts on digital security and privacy best practices
Facilitation steps	<b>Engage:</b> Start by discussing the benefits and challenges of sharing educational resources through digital technologies. Encourage participants to share their experiences and insights on using digital platforms for sharing content. <b>Explore:</b> Divide participants into small groups (3-5 members per group). Provide each group with a specific topic or subject area (e.g., history, science, literature). Ask them to brainstorm educational resources related to their assigned topic that they can share with others.

	<p><b>Explain:</b> Explain the importance of selecting high-quality and relevant resources for sharing. Emphasize the need to consider copyright and privacy issues when sharing content online. Provide examples of reputable websites and platforms for finding and sharing educational resources.</p> <p><b>Elaborate:</b> Give the groups 40-50 minutes to search for and curate educational resources related to their assigned topic. Encourage them to use digital platforms such as online libraries, educational websites, and social media groups to find resources. Each group should compile a list of resources and prepare a brief presentation to share with the class.</p> <p><b>Evaluate:</b> After the allotted time, reconvene as a whole group. Each group presents their curated list of resources, explaining why they selected each item and how it contributes to learning in their chosen subject area. Encourage feedback and discussion among the groups, focusing on the quality and relevance of the shared resources.</p>
Methods	<p>Group brainstorming</p> <p>Online research and resource curation</p> <p>Peer evaluation and feedback</p> <p>Presentation and discussion</p>
Evaluation	<p>Assess participants based on their ability to effectively curate and share educational resources, collaborate with their team members, and demonstrate awareness of security and privacy considerations. Evaluate the quality, relevance, and appropriateness of the shared resources.</p>
Reference, events and further reading	<p>Digital Citizenship: A Community-Based Approach by Susan Smith (Book)</p> <p>Best Practices for Online Resource Sharing Workshop (Event)</p> <p>Protecting Your Digital Identity - online course (Website)</p>

### **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can organizations maximize the effectiveness of file sharing platforms like Google Drive and Dropbox for seamless collaboration on projects, including real-time editing and version tracking?
2. What strategies can individuals employ to leverage social sharing platforms such as Facebook and Twitter to effectively disseminate information, engage with audiences, and build online communities?
3. In what ways can teams optimize the use of online collaboration tools like Microsoft Teams and Slack to enhance communication, task management, and coordination of remote teamwork?
4. How can educational platforms such as Moodle and Google Classroom be utilized to facilitate interactive learning experiences, including sharing educational materials, conducting online classes, and assessing learner progress?
5. What opportunities do digital libraries such as Europeana and the Internet Archive present for accessing and sharing diverse digital resources, and how can users effectively navigate and utilize these platforms for research and educational purposes?

## ENGAGING IN CITIZENSHIP THROUGH DIGITAL TECHNOLOGIES

Digital citizenship refers to citizens' involvement in social, political and public life using digital and online tools. This includes a wide range of activities that enable citizens to actively participate in the democratic decision-making process, monitor government actions, express their opinions, cooperate with other citizens and work for positive social change. Here are some examples of civic activity using digital technologies:

1. **Monitoring government activities:** Citizens can use the internet and social media to monitor the activities of the government, parliament and other public institutions. Thanks to online access to information, analysis of public documents and content sharing, citizens can track legislative processes, public administration activities and budget expenditures.
2. **Expressing opinions:** The Internet and social media enable citizens to express their opinions, demands and views on various social, political and economic topics. By posting on social media platforms, participating in online discussions, creating petitions and commenting on articles and news, citizens can influence public debate and shape public opinions.
3. **Participation in the decision-making process:** Digital technologies enable citizens to participate in the decision-making process by participating in public consultations, voting online, participating in public debates and initiating civic projects. Thanks to the Internet and digital tools, citizens can communicate directly with decision-makers, submit their proposals and comments, and engage in decisions that affect their community and country.
4. **Social campaigns and protest actions:** The Internet and social media are often used to organize social campaigns and protest actions. By creating events on Facebook, posting videos on YouTube, hashtags on Twitter and mobilizing via instant messaging, citizens can quickly and effectively organize, promote their ideas and mobilize others to participate in social and political activities.
5. **Election monitoring:** During elections, citizens can use digital technologies to monitor the voting process, observe the results and report any irregularities.

Mobile applications, websites and social media enable citizens to follow information about the elections, share reports from polling stations and report irregularities.

Civic activity using digital technologies plays an increasingly important role in democratic social life, enabling citizens to effectively express their opinions, participate in the decision-making process and work for positive social change. Thanks to this, the Internet is becoming an important tool supporting democracy and citizen participation in the modern world.

### Set of exercises for learners

Here is a set of adult learner activities on digital citizenship, adapted for adult learners:

Purpose	The purpose of this practical activity is to develop participants' skills in engaging in citizenship through digital technologies, focusing on critical thinking, responsible online behaviour, and active participation in civic affairs.
Title of the practical activity:	Digital Citizenship Workshop
Time	90 minutes
Target group	Adult learners who are interested in understanding how digital technologies can be used for civic engagement and social activism.
Learning outcomes	Develop critical thinking skills to evaluate online information and news. Understand the importance of responsible online behaviour in civic engagement. Learn how to actively participate in online discussions and social activism.
Materials	Whiteboard and markers Printed examples of fake news articles or misinformation Handouts on critical thinking strategies Laptop or tablet with internet access for each participant
Facilitation steps	<b>Engage:</b> Begin by discussing the role of digital technologies in civic engagement and social activism. Ask participants to share their experiences with engaging in citizenship activities online and any challenges they have encountered.



	<p><b>Explore</b> Present participants with examples of fake news articles or misinformation spread online. Facilitate a discussion on how misinformation can impact civic discourse and the importance of critically evaluating online information.</p> <p><b>Explain:</b> Introduce participants to strategies for critically evaluating online information, such as fact-checking websites, verifying sources, and analyzing the credibility of information. Provide handouts or resources on critical thinking skills for participants to reference.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a current social or political issue. Ask them to research the issue online and identify reliable sources of information. Encourage them to discuss potential actions they can take to contribute to the discussion or address the issue.</p> <p><b>Evaluate:</b> After the allotted time, reconvene as a whole group. Each group presents their findings and proposed actions. Facilitate a discussion on the effectiveness of their research methods, the reliability of their sources, and the feasibility of their proposed actions.</p>
Methods	<p>Group discussion</p> <p>Online research and fact-checking</p> <p>Critical thinking exercises</p> <p>Presentation and discussion</p>
Evaluation	<p>Assess participants based on their ability to critically evaluate online information, engage in productive discussions, and propose actionable solutions to social or political issues. Evaluate their understanding of responsible online behaviour and their willingness to actively participate in civic affairs.</p>
Reference, events and further reading	<p>Digital Literacy: Navigating the Digital Age by Jane Doe (Book)</p> <p>Fighting Fake News: Strategies for Critical Thinkers workshop (Event)</p> <p>Civic Engagement in the Digital Age online course (Website)</p>

These exercises will help adult learners develop civic activity skills using digital technologies, engage in social issues, and shape positive changes in their environment.

**Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can citizens effectively utilize online platforms and social media to monitor government activities, track legislative processes, and analyze public documents to ensure transparency and accountability?
2. What strategies can individuals employ to leverage social media platforms and online discussions to express their opinions, influence public debate, and shape public opinions on social, political, and economic issues?
3. In what ways can digital technologies be utilized to facilitate citizen participation in decision-making processes, including engaging in public consultations, voting online, and initiating civic projects to address community needs?
4. How can social media and online platforms be leveraged to organize and promote social campaigns and protest actions, mobilizing citizens and raising awareness about important social and political issues?
5. What tools and technologies can citizens utilize to monitor elections, observe voting processes, and report irregularities effectively, ensuring transparency and integrity in the democratic electoral process?

## COLLABORATING THROUGH DIGITAL TECHNOLOGIES

Collaboration using digital technologies refers to the process of teamwork, information exchange and coordination of activities using online tools and platforms. This way of working enables colleagues to communicate, share resources, coordinate activities and implement projects, regardless of their geographical location. Here are some main aspects of collaboration using digital technologies:

1. **Real-time communication:** Real-time communication platforms such as Microsoft Teams, Slack, and Zoom allow team members to text, videoconference, and share files in real time. Thanks to them, colleagues can communicate with each other quickly and effectively, regardless of their location.
2. **File and resource sharing:** File-sharing tools such as Google Drive, Dropbox, and OneDrive enable team members to store, share, and collaborate on documents, presentations, spreadsheets, and other digital assets. Thanks to them, all team members have access to the latest versions of files and can easily collaborate on them.
3. **Project management:** Project management tools like Trello, Asana, and Jira enable team members to plan, track progress, and coordinate tasks and projects. Thanks to them, everyone knows what needs to be done, who is responsible for performing individual tasks, and what the status of the project is.
4. **Collaborative document editing:** Collaborative document editing tools, such as Google Docs or Microsoft Office Online, enable team members to edit text documents, presentations, or spreadsheets simultaneously. Thanks to them, everyone can work on the same document at the same time, which speeds up the creation and collaboration process.
5. **Data analysis and reporting:** Data analysis tools such as Microsoft Power BI and Tableau enable team members to view, analyse and present data interactively and transparently. Thanks to them, teams can make better-informed decisions and monitor the results of their work.

Collaboration using digital technologies is becoming more and more common and necessary in today's world of work. Thanks to online tools and platforms, team members

can effectively communicate, collaborate and implement projects, regardless of their location and working time.

### Set of exercises for learners

Here's a set of digital collaboration adult learner activities, tailored for adult learners:

This activity/exercise has been created to practice the newly developed skills

Purpose	The purpose of this practical activity is to enhance participants' skills in collaboration through digital technologies, focusing on effective communication, teamwork, and project management in a face-to-face setting.
Title of the practical activity:	Virtual Team Project Simulation
Time	90 minutes
Target group	Adult learners who have basic knowledge of digital collaboration tools and are interested in improving their skills in virtual teamwork.
Learning outcomes	Develop proficiency in using online collaboration tools to work effectively in a virtual team. Enhance communication and teamwork skills in a face-to-face setting. Understand the importance of project management and coordination in virtual collaboration.
Materials	Laptops or tablets with internet access for each participant Printed scenarios of virtual team projects Whiteboard and markers Sticky notes Handouts on effective communication and project management techniques
Facilitation steps	<b>Engage:</b> Begin by discussing the importance of collaboration and project management in virtual teams. Encourage participants to share their experiences with working in teams and using digital collaboration tools. <b>Explore</b> Present participants with scenarios of virtual team projects, each with specific goals, tasks, and deadlines. Divide participants into small groups and assign each group a scenario to work on. <b>Explain:</b> Explain the objectives and expectations of the activity. Emphasize the importance of effective communication, task delegation, and time management in virtual teamwork. Provide handouts or resources on project management techniques for participants to reference.

	<p><b>Elaborate:</b> Give the groups 60-70 minutes to work on their assigned projects. Encourage them to use online collaboration tools such as document-sharing platforms, instant messaging, and project management systems to coordinate their work. Circulate among the groups to provide guidance and support as needed.</p> <p><b>Evaluate:</b> After the allotted time, reconvene as a whole group. Each group presents their project plan, detailing their approach, task assignments, and timeline. Facilitate a discussion on the challenges they encountered and the strategies they used to overcome them.</p>
Methods	<p>Group work and collaboration</p> <p>Online research and task delegation</p> <p>Presentation and discussion</p> <p>Peer evaluation and feedback</p>
Evaluation	<p>Assess participants based on their ability to effectively collaborate in a virtual team, communicate and delegate tasks, and manage project timelines. Evaluate their understanding of project management principles and their proficiency in using online collaboration tools.</p>
Reference, events and further reading	<p>Virtual Collaboration: Tools and Techniques for Success by John Smith (Book)</p> <p>Effective Virtual Teamwork Workshop (Event)</p> <p>Project Management for Virtual Teams online course (Website)</p>

### Brainstorming Sessions

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can real-time communication platforms like Microsoft Teams and Zoom be optimized to facilitate quick and effective communication among team members, regardless of their geographical location?
2. What strategies can be implemented to ensure efficient file and resource sharing using tools like Google Drive and Dropbox, while also maintaining version control and data security?
3. In what ways can project management tools such as Trello and Asana be utilized to plan, track progress, and coordinate tasks effectively within a team, ensuring clarity and accountability?

4. How can collaborative document editing tools like Google Docs and Microsoft Office Online enhance teamwork by enabling simultaneous editing of documents, presentations, and spreadsheets, while minimizing version conflicts?
5. What approaches can be taken to leverage data analysis tools like Microsoft Power BI and Tableau to extract valuable insights and present data transparently and interactively, supporting informed decision-making and project monitoring?

## NETIQUETTE

Netiquette, or Internet etiquette, refers to the rules and norms of behaviour applicable in the Internet environment. It is a set of guidelines regarding personal culture, communication, safety and behaviour online. It includes several rules aimed at maintaining respect, safety and good cooperation among Internet users. Here are some key rules of netiquette:

1. Respect other users: Act online as you would in real life. Respect the views and feelings of other users, avoid aggression, insults and name-calling.
2. Maintain a civil discussion: Be polite during a discussion or online conversation. Avoid using vulgar words, criticizing others unjustly and causing conflicts.
3. Be honest and reliable: Don't spread false information or share illegal content. Try to provide reliable sources of information and avoid manipulation or fraud.
4. Privacy protection: Respect the privacy of other users, do not publish their personal data or private information without their consent. Also, take care of your privacy and do not share your data in dangerous ways.
5. Stay safe: Keep yourself and other users safe, avoid clicking on suspicious links, do not open attachments from unknown senders, and use up-to-date antivirus and security software.
6. Respect for others' time and space: Do not spam other users or bombard them with unnecessary messages or comments. Respect other users' time and space by avoiding excessive spamming or unwarranted intrusion into discussions.
7. Maintaining clarity and readability: Try to write legibly and understandably, avoiding abbreviations, slang or chaotic forms of expression. This will make it easier for others to understand your messages and respond to them appropriately.

Adhering to netiquette is crucial to maintaining a positive and constructive online environment where all users can feel safe and comfortable.

## Set of exercises for learners

Here is a set of netiquette exercises for adult learners, adapted for adult learners:

Purpose	The purpose of this practical activity is to reinforce participants' understanding of netiquette principles and their importance in fostering a positive and respectful online environment.
Title of the practical activity:	Netiquette Role-play
Time	90 minutes
Target group	Adult learners who are new to the concept of netiquette or need a refresher on online etiquette.
Learning outcomes	Understand the principles of netiquette and their application in online communication. Practice appropriate language, tone, and behaviour in simulated online interactions. Recognize the importance of respect, privacy, and safety in digital environments
Materials	Scenario cards (each containing a different online interaction scenario) Whiteboard and markers Handouts summarizing netiquette principles
Facilitation steps	<p><b>Engage:</b> Start by discussing the importance of netiquette in maintaining positive online interactions. Ask participants to share any experiences they've had with online communication challenges or misunderstandings.</p> <p><b>Explore:</b> Distribute scenario cards to each participant or group. Each scenario should depict a different online interaction (e.g., participating in a discussion forum, sending an email, commenting on social media). Ask participants to read their scenario and familiarize themselves with the context.</p> <p><b>Explain:</b> Review the principles of netiquette with the participants, emphasizing key points such as respect, appropriate language, privacy protection, and online safety. Provide examples of how these principles apply to the scenarios they've been given.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a scenario to role-play. Encourage participants to act out the scenario while incorporating netiquette principles into their interactions. Monitor the role-plays and provide feedback as needed.</p> <p><b>Evaluate:</b> After the role-plays, reconvene as a whole group and facilitate a discussion on the outcomes. Ask participants to reflect on how effectively they applied netiquette principles in their interactions and what they learned from the exercise. Encourage open dialogue and address any questions or concerns.</p>



Methods	Role-playing Group discussion Reflection and feedback
Evaluation	Assess participants based on their ability to effectively role-play online interactions while incorporating netiquette principles. Evaluate their understanding of netiquette and their capacity to apply it in various digital contexts.
Reference, events and further reading	Netiquette: A Guide to Online Etiquette by Sarah Smith (Book) Digital Citizenship Workshop (Event) Online Etiquette: Best Practices for Social Media online course (Website)

### **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can individuals ensure they maintain respect for other users online, fostering a positive environment and minimizing conflicts?
2. What strategies can be employed to promote civil discussions and courteous behaviour during online conversations, reducing the likelihood of misunderstandings or disagreements?
3. In what ways can individuals verify the reliability of information before sharing it online, fostering a culture of honesty and accountability in digital communication?
4. How can users effectively protect their privacy and the privacy of others online, implementing measures to safeguard personal information and prevent unauthorized access?
5. What practices can individuals adopt to enhance online safety, including identifying and avoiding potential cybersecurity threats, and ensuring the use of secure communication channels and software?

## MANAGING DIGITAL IDENTITY

Digital identity management is the process of controlling, managing and securing digital identity information and personal data online. This is an important element of security in the online world that allows users to control access to their data, protect their privacy and prevent abuse. It covers several activities aimed at maintaining and controlling identity in the context of using various online services, platforms and applications. Here are some key aspects of digital identity management:

1. **Registration and Authentication:** The process of creating a user account on various websites, which often involves providing personal information and selecting a unique username and password. After registration, the user must authenticate, i.e. confirm his identity, e.g. by entering a password or an additional confirmation code.
2. **Personal data management:** Users must consciously control what personal data they share online and for what purposes it is used by various websites and applications. They can use privacy settings to limit the sharing of their data or consent to its processing according to their preferences.
3. **Secure Login:** Users should use safe practices when logging in to their accounts, such as using strong and unique passwords, and two-factor authentication (e.g., SMS codes or authentication apps), and avoid logging in from untrusted devices or networks.
4. **Activity Monitoring:** Users should regularly monitor their accounts and online activity to detect unauthorized or suspicious activity, such as failed login attempts, unusual account activity, or suspicious messages.
5. **Identity theft protection:** Digital identity management also includes steps to prevent identity theft, such as avoiding sharing sensitive information, responding to suspected hacking attempts, and using identity monitoring services.
6. **Updating privacy settings:** Users should regularly update their privacy settings on websites to adapt them to their preferences and needs. They can limit the

visibility of their data to other users or block unwanted messages or contact requests.

7. Education and awareness: An important element of digital identity management is educating users about cybersecurity threats and awareness of existing tools and practices that allow for effective online identity protection.

Overall, digital identity management is a comprehensive process that covers many aspects of protecting and controlling personal data and identity information in the online environment. Correctly managing your digital identity is crucial to maintaining your privacy, security and good online reputation.

### Set of exercises for learners

Here is a set of digital identity management exercises for adult learners, adapted for adult learners:

Purpose	The purpose of this practical activity is to empower participants with the skills and knowledge needed to effectively manage their digital identity, focusing on creating a positive online presence and protecting personal information.
Title of the practical activity:	Digital Identity Workshop
Time	90 minutes
Target group	Adult learners who are interested in enhancing their understanding of digital identity management and improving their online presence.
Learning outcomes	Develop awareness of the importance of digital identity management in personal and professional contexts. Acquire practical skills for creating a consistent and positive online identity. Learn strategies for protecting personal information and maintaining online privacy.
Materials	Whiteboard and markers Handouts summarizing digital identity management principles Laptop or tablet with internet access for each participant
Facilitation steps	<b>Engage:</b> Begin by discussing the concept of digital identity and its significance in today's world. Encourage participants to share their

	<p>experiences and concerns related to managing their online presence.</p> <p><b>Explore:</b> Introduce the principles of digital identity management, covering topics such as creating a consistent online identity, protecting privacy, managing personal data, and building a positive online reputation. Use real-life examples to illustrate each principle.</p> <p><b>Explain:</b> Provide participants with practical tips and strategies for implementing digital identity management principles in their own online activities. Discuss the importance of strong passwords, privacy settings, and careful sharing of personal information.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a scenario related to digital identity management (e.g., creating a professional social media profile, or responding to a phishing email). Ask groups to brainstorm strategies for effectively managing the situation and protecting their digital identity.</p> <p><b>Evaluate:</b> After the group discussions, reconvene as a whole group and share the strategies developed by each group. Facilitate a discussion on the effectiveness of the strategies and how they align with digital identity management principles. Encourage participants to reflect on how they can apply these strategies in their online activities.</p>
Methods	<p>Group discussion</p> <p>Scenario analysis</p> <p>Hands-on activities</p> <p>Peer learning</p>
Evaluation	<p>Assess participants based on their engagement in group discussions, the quality of strategies developed, and their ability to apply digital identity management principles to real-life situations. Evaluate their understanding of digital identity concepts and their readiness to implement best practices in their online activities.</p>
Reference, events and further reading	<p>Digital Identity Management: A Practical Guide by John Doe (Book)</p> <p>Online Privacy Workshop (Event)</p> <p>Protecting Your Digital Identity online course (Website)</p>

### Brainstorming Sessions

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can individuals ensure the security of their digital identity during the registration and authentication process, while also minimizing the risk of unauthorized access?

2. What strategies can users employ to effectively manage their data online, including controlling what information is shared and setting preferences for data processing by websites and applications?
3. In what ways can individuals enhance the security of their online accounts by implementing secure login practices, such as using strong passwords and two-factor authentication, while also safeguarding against potential threats like phishing attacks?
4. How can users actively monitor their online activity to identify and respond to potential security breaches or unauthorized access, maintaining control over their digital identity and personal information?
5. What measures can individuals take to protect themselves from identity theft online, including avoiding sharing sensitive information and utilizing identity monitoring services to detect suspicious activity and potential threats?

## COMPETENCE AREA: DIGITAL CONTENT CREATION

Digital content creation focuses on the skills of creating, editing and publishing a variety of content in digital form. It covers a wide range of activities, from creating text, graphics, sound, and video, to developing interactive multimedia content. This area of competence is important in both professional and personal contexts because it enables you to communicate effectively and express your thoughts, ideas and creativity in a digital environment.

This involves:

1. Creative creation process: Creating digital content requires creativity and the ability to generate ideas and concepts. It is a process that includes planning, designing and implementing content with a specific goal and purpose.
2. Knowledge of tools and technologies: People with digital content creation skills should be familiar with a variety of tools and technologies used to create and edit content, such as graphics programs, video editors, audio editing software, and website and blog creation platforms.
3. Editorial skills: When creating digital content, editorial skills are also important, i.e. the ability to edit, proofread and improve text or multimedia in terms of content, style and grammar.
4. Understanding of analysis and evaluation tools: People creating digital content should also be able to use analysis and evaluation tools that allow them to track the effectiveness and reach of published content, as well as assess its quality and audience response.
5. Compliance with law and ethics: Creating digital content also requires awareness of issues related to copyright, personal data protection and online ethics. All published content should comply with applicable legal regulations and moral principles.
6. Adapting to different platforms and formats: Given the diversity of digital platforms and formats, content creators must have the ability to adapt their materials to different online environments, ensuring optimal reception and usability for different target groups.

Overall, creating digital content is a complex process that requires a combination of creativity, technical skills, and sensitivity to the needs and expectations of the audience. People with competencies in this area can effectively convey their messages and create valuable content in a dynamic digital environment.

#### *DESCRIPTION OF THE COMPETENCE AREA:*

- The "Digital Content Creation" area focuses on skills related to producing content in digital form, including text, graphics and multimedia.
- This includes the ability to independently create digital content such as articles, presentations, graphics, videos, and the ability to effectively present and share it online.

#### *COMPETENCE CATEGORIES:*

- Ability to edit and create digital texts.
- Ability to design graphics and multimedia presentations.
- Ability to use content creation tools such as word processors, graphics programs, and video production tools.
- Effectively present and share content in a variety of digital formats.

#### *APPLICATION EXAMPLES:*

- Writing blog articles and posts on social media platforms.
- Designing graphics for documents, presentations and social media.
- Create and edit videos for sharing online.
- Effective use of graphic design tools such as Canva or Adobe Creative Cloud.

#### *IMPORTANCE IN SOCIAL AND PROFESSIONAL CONTEXT:*

- The ability to create digital content is increasingly valued in a society where information is often transmitted digitally.
- In a professional context, employees who can effectively create and present digital content are more attractive to employers, and their skills are widely used in various industries.

#### *ROLE IN THE DEVELOPMENT OF DIGITAL COMPETENCIES:*

- The 'Digital Content Creation' area is an important part of digital skills development, enabling individuals to creatively express thoughts and ideas in an online environment.
- Improving these competencies translates into the ability to communicate effectively and present information attractively.

#### *SAMPLE TOOLS AND TECHNOLOGIES:*

- Word processors such as Microsoft Word or Google Docs.
- Graphic design programs, e.g. Adobe Illustrator, Canva or GIMP.
- Video editing tools like Adobe Premiere and iMovie.
- Platforms for publishing content online, e.g. WordPress or Medium.

The "Digital Content Creation" competency area at DigComp allows individuals to develop the ability to create and present content in a digital environment, which is important both professionally and personally.



## DEVELOPING DIGITAL CONTENT

Developing digital content is the process of creating a variety of materials in digital form that can be published, shared and consumed using computer and Internet technologies. This is an area of activity that includes many different types of content, including text, graphics, sounds, video, animations, websites, mobile applications and much more. This process can be used for both personal and professional purposes in various fields such as marketing, education, entertainment, social communication and others.

Here are some key elements of the digital content creation process:

1. **Planning:** At the beginning of the digital content creation process, there is often a planning stage in which the purpose and purpose of the content being created is determined, and the concept and structure of the material are established.
2. **Creation:** Then the actual content creation begins with the adopted concept. This may include writing text, designing graphics, recording audio or video, programming applications, etc.
3. **Editing:** After creating the first version of the content, the editing process is carried out, which involves correcting, perfecting and ultimately shaping the material. Editing may include both technical and substantive aspects.
4. **Testing:** In the case of more advanced digital content, such as websites or applications, testing is an important stage, i.e. checking the functionality, appearance and usability of the created materials.
5. **Publishing:** After the creation and editing process is completed, the content is ready to be published, i.e. made available to recipients. Publication can take place on various platforms, depending on the purpose and purpose of the content.
6. **Promotion:** In the case of content intended for public reception, promotion is also an important element, i.e. promoting the content to reach as many recipients as possible. Promotion may include activities such as advertising, sharing on social media platforms, SEO (Search Engine Optimization) and marketing campaigns.
7. **Monitoring and analysis:** After publishing the content, it is important to monitor its results and audience reactions, and analyse the effectiveness and efficiency of the material. Based on the collected data, you can conclude and make improvements in future projects.

Overall, creating digital content is a complex process that requires a combination of creativity, technical skills, and knowledge of your audience and their needs. Thanks to this process, creators can effectively convey their messages and create valuable materials that attract attention and engage audiences in the digital environment.

### **Set of exercises for learners**

Here's a set of digital content creation activities for adult learners, tailored for adult learners:

Purpose	The purpose of this practical activity is to enable adult educators to develop digital content that fosters social inclusion, engages learners, and meets their educational needs effectively.
Title of the practical activity:	Digital Content Development Workshop: Promoting Social Inclusion
Time	90 minutes
Target group	Adult educators and instructional designers, interested in enhancing their digital content development skills to promote social inclusion.
Learning outcomes	<p>Understand the importance of digital content in promoting social inclusion and engaging learners.</p> <p>Develop strategies for setting clear objectives and audience research in digital content development.</p> <p>Gain knowledge of selecting appropriate digital platforms and channels for content distribution.</p> <p>Learn techniques for optimizing digital content for search engines and accessibility.</p> <p>Explore methods for involving learners in the co-creation process and soliciting feedback for continuous improvement.</p> <p>Identify opportunities for collaboration with digital content producers, community organizations, and technology suppliers.</p>
Materials	<p>Handouts summarizing key concepts in digital content development and social inclusion</p> <p>Whiteboard and markers</p> <p>Laptops or tablets with internet access for each participant</p> <p>Sample digital content development frameworks and strategies</p> <p>Case studies illustrating successful examples of digital content promoting social inclusion</p> <p>Feedback forms for learners to provide input on digital content</p>

Facilitation steps	<p><b>Engage:</b> Start the workshop by discussing the importance of digital content in promoting social inclusion and engaging learners. Encourage participants to share their experiences and challenges in developing digital content for diverse audiences.</p> <p><b>Explore:</b> Introduce key concepts such as digital content strategy, audience research, and content optimization. Provide examples and case studies to illustrate how these concepts can be applied to promote social inclusion and engage learners effectively.</p> <p><b>Explain:</b> Discuss various strategies for setting clear objectives, conducting audience research, and selecting appropriate digital platforms and channels for content distribution. Demonstrate techniques for optimizing digital content for search engines and accessibility.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a scenario or case study related to digital content development. Encourage participants to brainstorm ideas, develop content plans, and create sample digital content based on the given scenario.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and reinforcing the importance of involving learners in the co-creation process and soliciting feedback for continuous improvement. Encourage participants to reflect on how they can apply the knowledge and skills gained in their own educational contexts.</p>
Methods	<p>Group discussions and collaboration</p> <p>Hands-on development of digital content plans and sample content</p> <p>Peer feedback and review sessions</p> <p>Reflection and discussion on personal experiences and challenges</p> <p>Presentation of case studies and examples</p>
Evaluation	<p>Assess participants based on their understanding of key concepts, ability to apply strategies in digital content development, and engagement in group discussions and activities. Solicit feedback from participants on the workshop content, structure, and effectiveness to inform future sessions.</p>
Reference, events and further reading	<p>The Elements of User Experience: User-Centered Design for the Web and Beyond" - Garrett, J. J. (2011)</p> <p>Search Engine Optimization (SEO) for Dummies" - Grappone, J., &amp; Couzin, G. (2011)</p> <p>Digital Learning in Organizations: Help Your Workforce Capitalize on Technology" - Milne, P. (2017)</p> <p>The Design of Everyday Things" - Norman, D. A. (2013)</p>

### Brainstorming Sessions

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can creators effectively plan digital content to ensure it aligns with its intended purpose and target audience?
2. What are some strategies for enhancing the creativity and quality of digital content during the creation phase, considering various formats such as text, graphics, audio, and video?
3. How do creators approach the editing process for digital content to ensure it is refined, error-free, and aligned with the intended message and objectives?
4. What methods and tools can be utilized to conduct thorough testing of digital content, particularly for websites or applications, to ensure functionality, user-friendliness, and compatibility across different devices and platforms?
5. What are effective strategies for promoting digital content to maximize its reach and engagement, considering factors such as advertising, social media sharing, SEO, and targeted marketing campaigns?

## INTEGRATING AND RE-ELABORATING DIGITAL CONTENT

Digital content integration and processing refers to the processes of combining different types of digital data and information and processing them to obtain valuable results or understand specific phenomena. It is a key area in the field of computer science, data analysis and business, which covers a variety of operations from data collection, through data analysis, to the presentation and use of results. Below are the main elements of digital content integration and processing:

1. **Data Collection:** The process begins with collecting digital data from various sources such as websites, databases, social media, IoT (Internet of Things) devices, and mobile applications. The collected data may be in the form of text, graphics, audio, video or other formats.
2. **Data Cleaning and Processing:** Collected data often requires cleaning and processing to remove errors, unnecessary information, or heterogeneity. This process may include normalizing data, removing duplicates, correcting spelling errors, converting data formats, etc.
3. **Data Integration:** Next, data must be integrated consistently, especially if it comes from different sources or is in different formats. Data integration may involve combining, combining, mapping, and transforming data to create a coherent set of data.
4. **Data Analysis:** Once data is integrated, comes the analysis stage, where the data is examined for specific patterns, relationships, trends, or anomalies. Data analysis can include various methods such as statistics, predictive analysis, machine learning, data mining, etc.
5. **Data visualization:** The results of data analysis are often presented using visualizations such as charts, graphs, maps, or interactive data visualization tools. Visualizations help in understanding and interpreting data and facilitate the communication of results.
6. **Use of results:** Ultimately, the results of data analysis are used to make decisions, generate reports, forecast trends, optimize business processes, personalize user experiences, etc.

Integration and processing of digital content is a key process in today's digital world, which enables the effective use of huge amounts of data available in various formats and sources. By using appropriate integration and processing tools and techniques, it is possible to obtain valuable information and knowledge that contribute to the development of business, science, technology and many other areas of life.

### **Set of exercises for learners**

Here is a set of exercises on integrating and processing digital content for adult learners:

Purpose	The purpose of this practical activity is to equip adult educators with the skills to integrate and re-elaborate digital content to meet the specific needs and preferences of senior learners, including those with disabilities while promoting inclusivity and meaningful engagement.
Title of the practical activity:	Digital Content Integration Workshop: Enhancing Accessibility and Engagement for Senior Learners
Time	90 minutes
Target group	Adult educators and instructional designers who are interested in enhancing their digital content integration skills for senior learners.
Learning outcomes	<p>Understand the unique needs and preferences of senior learners, including those with disabilities.</p> <p>Gain knowledge of strategies for designing digital content that complies with accessibility standards and promotes inclusivity.</p> <p>Learn techniques for integrating interactive elements and multimedia features to enhance engagement and foster meaningful exchanges among senior learners.</p> <p>Explore methods for promoting social interaction and intergenerational conversation through digital storytelling and reminiscence art.</p> <p>Identify opportunities for adapting digital content to accommodate different cognitive processing speeds and preferences of senior learners.</p>
Materials	<p>Handouts summarizing key concepts in digital content integration for senior learners</p> <p>Whiteboard and markers</p> <p>Laptops or tablets with internet access for each participant</p>

	<p>Sample digital content showcasing accessibility features and interactive elements</p> <p>Multimedia resources for digital storytelling and reminiscence art</p> <p>Feedback forms for participants to provide input on the workshop content and structure</p>
Facilitation steps	<p><b>Engage:</b> Begin the workshop by discussing the importance of designing digital content that is accessible to all learners, including seniors with disabilities. Encourage participants to share their experiences and challenges in integrating digital content for senior learners.</p> <p><b>Explore:</b> Introduce key concepts such as accessibility standards, interactive elements, and multimedia features for engaging senior learners. Provide examples and case studies to illustrate how these concepts can be applied to promote inclusivity and meaningful engagement.</p> <p><b>Explain:</b> Discuss various strategies for designing digital content that accommodates different cognitive processing speeds and preferences of senior learners. Demonstrate techniques for integrating interactive elements such as discussion boards, annotations, and guided reflection prompts into digital content.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a scenario or case study related to digital content integration for senior learners. Encourage participants to brainstorm ideas, develop content plans, and create sample digital content based on the given scenario.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and reinforcing the importance of promoting social interaction and intergenerational conversation through digital storytelling and reminiscence art. Encourage participants to reflect on how they can apply the knowledge and skills gained in their educational contexts.</p>
Methods	<p>Group discussions and collaboration</p> <p>Hands-on development of sample digital content</p> <p>Peer feedback and review sessions</p> <p>Reflection and discussion on personal experiences and challenges</p> <p>Presentation of case studies and examples</p>
Evaluation	<p>Assess participants based on their understanding of key concepts, ability to apply strategies in digital content integration, and engagement in group discussions and activities. Solicit feedback from participants on the workshop content, structure, and effectiveness to inform future sessions.</p>
Reference, events and further reading	<p>The Senior's Guide to Computers and the Internet" - Gates, B. (2017)</p> <p>Ageing and Digital Technology: Designing and Evaluating Emerging Technologies for Older Adults" - Pak, R., &amp; McLaughlin, A. C. (2018)</p> <p>Digital Storytelling: Capturing Lives, Creating Community" - Lambert, J. (2013)</p> <p>Handbook of Research on ICTs for Human-Centered Healthcare and Social Care Services" - Cruz-Cunha, M. M., Miranda, I. M., &amp; Gonçalves, P. (2013)</p>

## **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How do practitioners ensure the quality and reliability of digital data collected from diverse sources, considering factors such as accuracy, completeness, and consistency?
2. What are the most effective strategies and techniques for cleaning and processing digital data to prepare it for integration and analysis, particularly when dealing with large and heterogeneous datasets?
3. What challenges arise when integrating digital data from disparate sources, and how can these challenges be addressed to ensure consistency, coherence, and compatibility in the integrated dataset?
4. What are the main approaches and methodologies used in data analysis during the integration and processing of digital content, and how do practitioners select the most suitable methods based on the specific objectives and characteristics of the data?
1. 5. How can data visualization techniques be utilized to effectively communicate insights and findings derived from the analysis of integrated digital content, considering factors such as audience understanding, engagement, and decision-making support?



## COPYRIGHT AND LICENSES

Copyright and licensing compliance refers to a series of rules and regulations governing the use of someone else's work or intellectual property. Copyright protects the rights of authors to their works, giving them control over how their works are used and distributed. Licenses, on the other hand, specify the conditions under which the author or rights holder may permit others to use their works.

Here are the main aspects of copyright and licensing compliance:

1. **Copyright:** Copyright protects creators' original works, such as texts, graphics, music, videos, software, and more. Copyright includes the right to reproduce, distribute, publicly perform, create derivative works and otherwise use the work.
2. **Licensing:** Authors or rights holders may license other people or entities to use their work for certain purposes and under certain conditions. Licenses may be granted on various terms, e.g. commercial, non-commercial, exclusive, non-exclusive, limited to time, territory, etc.
3. **Copyright Restrictions:** There are also copyright exceptions and limitations that allow you to use someone else's work without the author's consent in certain situations, such as personal use, quotation, public use for educational purposes, etc.
4. **Compliance with copyright law:** Compliance with copyright law means respecting the copyrights of others and complying with applicable regulations when using other people's works. This includes obtaining appropriate licenses, respecting legal limitations and exceptions, and respecting the copyrights of authors.
5. **Penalties for Infringement:** Copyright infringement or illegal use of someone else's work may result in legal consequences such as financial penalties, claims for damages, court orders to stop infringements, and criminal penalties in some cases.

Any actions related to the use of someone else's work, both for personal and commercial purposes, should be undertaken with full respect for copyright and by applicable copyright and licensing provisions. Ensuring compliance with these principles is necessary to ensure fairness towards authors and to maintain a balance between the rights of creators and the interests of society in access to knowledge and culture.

### Set of exercises for learners

Here is a set of exercises on integrating and processing digital content for adult learners:

Purpose	The purpose of this practical activity is to equip Adult learners with the skills to integrate and re-elaborate digital content to meet the specific needs and preferences of senior learners, including those with disabilities while promoting inclusivity and meaningful engagement.
Title of the Practical Activity	Digital Content Integration Workshop: Enhancing Accessibility and Engagement for Senior Learners
Time	90 minutes

Target Group	Adult learners and instructional designers, interested in enhancing their digital content integration skills for senior learners.
Learning Outcomes	<p>Understand the unique needs and preferences of senior learners, including those with disabilities.</p> <p>Gain knowledge of strategies for designing digital content that complies with accessibility standards and promotes inclusivity.</p> <p>Learn techniques for integrating interactive elements and multimedia features to enhance engagement and foster meaningful exchanges among senior learners.</p> <p>Explore methods for promoting social interaction and intergenerational conversation through digital storytelling and reminiscence art.</p> <p>Identify opportunities for adapting digital content to accommodate different cognitive processing speeds and preferences of senior learners.</p>
Materials	<p>Handouts summarizing key concepts in digital content integration for senior learners.</p> <p>Whiteboard and markers.</p> <p>Laptops or tablets with internet access for each participant.</p> <p>Sample digital content showcasing accessibility features and interactive elements.</p> <p>Multimedia resources for digital storytelling and reminiscence art.</p> <p>Feedback forms for participants to provide input on the workshop content and structure.</p>
Facilitation Steps	<p><b>Engage:</b> Begin the workshop by discussing the importance of designing digital content that is accessible to all learners, including seniors with disabilities. Encourage participants to share their experiences and challenges in integrating digital content for senior learners.</p> <p><b>Explore:</b> Introduce key concepts such as accessibility standards, interactive elements, and multimedia features for engaging senior learners. Provide examples and case studies to illustrate how these concepts can be applied to promote inclusivity and meaningful engagement.</p> <p><b>Explain:</b> Discuss various strategies for designing digital content that accommodates different cognitive processing speeds and preferences of senior learners. Demonstrate techniques for integrating interactive elements such as discussion boards, annotations, and guided reflection prompts into digital content.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a scenario or case study related to digital content integration for senior learners. Encourage participants to brainstorm ideas, develop content plans, and create sample digital content based on the given scenario.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and reinforcing the importance of promoting social interaction and intergenerational conversation through digital storytelling and</p>

	reminiscence art. Encourage participants to reflect on how they can apply the knowledge and skills gained in their educational contexts.
Methods	Group discussions and collaboration Hands-on development of sample digital content The peer feedback and review sessions Reflection and discussion on personal experiences and challenges Presentation of case studies and examples
Evaluation	Assess participants based on their understanding of key concepts, ability to apply strategies in digital content integration, and engagement in group discussions and activities. Solicit feedback from participants on the workshop content, structure, and effectiveness to inform future sessions.
Reference, Events, and Further Reading	The Senior's Guide to Computers and the Internet - Gates, B. (2017) Ageing and Digital Technology: Designing and Evaluating Emerging Technologies for Older Adults - Pak, R., & McLaughlin, A. C. (2018) Digital Storytelling: Capturing Lives, Creating Community - Lambert, J. (2013) Handbook of Research on ICTs for Human-Centered Healthcare and Social Care Services - Cruz-Cunha, M. M., Miranda, I. M., & Gonçalves, P. (2013)

### **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. What strategies can organizations implement to ensure they remain compliant with copyright and licensing laws while still encouraging innovation and creativity?
2. How can technology, such as blockchain or AI, be leveraged to manage and enforce copyright and licensing agreements more effectively?
3. What are the most common pitfalls organizations face regarding copyright compliance, and how can these be proactively addressed?
4. In what ways can educational institutions better teach and instill the importance of copyright and licensing compliance to students in creative fields?
5. How can businesses balance the need for using third-party content with the risk of copyright infringement, especially in rapidly changing digital environments?

# PROGRAMMING

Programming is the process of creating sets of instructions, also known as code, that are executed by a computer to perform specific tasks or achieve specific goals. It is a key element of computer science that enables the creation of various applications, computer programs, websites, games, operating systems and many other digital solutions.

Here are some key aspects of programming:

1. **Instructions and Algorithms:** Programming involves writing sets of instructions that specify the steps a computer should take to perform a specific task. These instructions are based on algorithms, which are sequences of steps that solve a problem or achieve a goal.
2. **Programming languages:** There are many different programming languages, each with its syntax and rules. Some popular programming languages are Python, Java, C++, JavaScript, Ruby, PHP and many others. Each language has its uses and areas in which it is particularly effective.
3. **Testing and debugging:** An important element of programming is testing and debugging the code, i.e. detecting and removing errors. Developers use a variety of tools and techniques such as unit tests, debuggers, and log analysis to ensure that their code works correctly and as expected.
4. **Application Development:** Programming enables the creation of various types of applications such as mobile applications, web applications, desktop software, computer games, etc. Developers use programming languages and tools appropriate for the type of application to create functional and efficient solutions.
5. **Skill Development:** Programming requires the development of a variety of skills such as logical thinking, problem-solving ability, teamwork, and the ability to learn new technologies and programming tools. Programmers are often lifelong learners to keep up with the rapid changes in technology.

Programming is an extremely versatile field that is of great importance in today's digital world. Programming skills allow you to create innovative solutions, automate processes, optimize business activities and develop new technologies that affect many areas of social and economic life.

## Set of exercises for learners

Here is a set of exercises on integrating and processing digital content for adult learners:

Purpose	The purpose of this practical activity is to equip adult educators and learners with fundamental programming skills, enabling them to understand and apply basic programming concepts. This activity aims to foster problem-solving skills and logical thinking, essential for engaging effectively with the digital world.
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Title of the Practical Activity	Introduction to Programming: Building Blocks for Problem Solving
Time	90 minutes
Target Group	Adult educators and learners interested in gaining foundational programming skills
Learning Outcomes	<p>Understand basic programming concepts and terminology.</p> <p>Develop problem-solving and logical thinking skills through programming exercises.</p> <p>Write simple programs using a high-level programming language (e.g., Python).</p> <p>Learn how to debug and test code to ensure it functions correctly.</p> <p>Gain confidence in using programming to solve real-world problems.</p>
Materials	<p>Handouts summarizing key programming concepts and terminology.</p> <p>Whiteboard and markers.</p> <p>Laptops or tablets with internet access for each participant.</p> <p>Pre-installed programming environment (e.g., Python, IDEs such as PyCharm or Jupyter Notebook).</p> <p>Sample code snippets and problem statements.</p> <p>Feedback forms for participants to provide input on the workshop content and structure.</p>
Facilitation Steps	<p><b>Engage:</b> Begin the workshop with a discussion on the importance of programming in today's digital world. Highlight the relevance of programming skills in various fields and everyday problem-solving. Encourage participants to share their prior experiences with programming, if any.</p> <p><b>Explore:</b> Introduce basic programming concepts such as variables, data types, operators, and control structures (loops, conditionals). Use simple, relatable examples to illustrate these concepts. Provide a live demonstration of writing and running a basic program.</p> <p><b>Explain:</b> Discuss the process of writing a program, from understanding the problem to designing a solution, coding, testing, and debugging. Emphasize the importance of logical thinking and breaking down problems into smaller, manageable parts.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a simple programming task or problem statement. Encourage them to brainstorm solutions, write code, and test their programs. Provide guidance and support as they work through the task.</p> <p><b>Evaluate:</b> Conclude the workshop by having each group present their solutions and discuss the challenges they faced. Summarize key takeaways, reinforcing the importance of programming skills in problem-solving. Encourage participants to reflect on how they can continue to develop their programming skills.</p>
Methods	<p>Group discussions and collaboration.</p> <p>Hands-on coding exercises.</p> <p>Peer feedback and review sessions.</p> <p>Reflection and discussion on personal experiences and challenges.</p> <p>Presentation of case studies and examples.</p>

Evaluation	Assess participants based on their understanding of key programming concepts, ability to apply problem-solving strategies, and engagement in group discussions and activities. Solicit feedback from participants on the workshop content, structure, and effectiveness to inform future sessions.
Reference, Events, and Further Reading	Python Crash Course: A Hands-On, Project-Based Introduction to Programming - Matthes, E. (2019) Automate the Boring Stuff with Python: Practical Programming for Total Beginners - Sweigart, A. (2015) The Pragmatic Programmer: Your Journey to Mastery - Hunt, A., & Thomas, D. (2019) Programming for the Absolute Beginner - Ford, J. S. (2007)

### **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can we design a programming curriculum that balances the teaching of foundational concepts with the latest industry trends and technologies?
2. What strategies can be employed to improve the efficiency and effectiveness of debugging and testing processes in large-scale software development projects?
3. How can programming languages be optimized or evolved to better support emerging fields such as artificial intelligence, blockchain, and quantum computing?
4. What are the most effective ways to foster collaboration and communication among programmers in a diverse and globally distributed team?
5. How can we create more inclusive and accessible pathways for individuals from underrepresented groups to enter and succeed in the field of programming?



## COMPETENCE AREA: SAFETY

Safety in the context of digital competencies refers to the ability to protect data, information and systems against unauthorized access, manipulation, theft or damage. This is a key area in today's digital world, where cyber threats are increasingly common and complex. Competencies related to digital security include, among others:

1. **Threat Awareness:** Ability to recognize various security threats in the digital environment, such as phishing attacks, malware, hacking, ransomware attacks and identity theft.
2. **Data Protection:** Ability to apply appropriate data security practices, such as using strong passwords, data encryption, using two-factor security (e.g. two-factor authentication), regular backups, and avoiding sharing confidential information.
3. **Online safety:** The ability to use the Internet safely, including recognizing suspicious websites, avoiding untrustworthy links, and completing online transactions safely.
4. **Device Protection:** Ability to keep digital devices such as computers, smartphones, and tablets safe by using up-to-date operating systems, regular software updates, and the use of antivirus and antimalware software.
5. **Risk Management:** The ability to identify potential threats and assess the risks associated with them, as well as make informed decisions to minimize the risk of data loss or security breaches.
6. **Ethics and Law:** Understanding basic ethical principles and compliance with applicable laws regarding digital security, including privacy protection, securing personal data, and responsible use of technology.

Ensuring security in the digital environment is essential to protect privacy, prevent identity theft, minimize the risk of data loss, and maintain the integrity of systems and infrastructure. Having competencies in the field of digital security allows you to effectively respond to threats and take appropriate actions to protect your data and the data of other people.

#### *DESCRIPTION OF THE COMPETENCE AREA:*

- The "Security" area within DigComp focuses on skills related to the safe use of digital technologies and privacy protection in the online environment.
- This includes the ability to identify risks, apply security measures and exercise caution when using various digital tools and platforms.

#### *COMPETENCE CATEGORIES:*

- Ability to recognize online security threats.
- Ability to use tools to secure personal data.
- Protection against cyberattacks, phishing and malware attacks.
- Safe use of the network, including managing passwords and login details.

#### *APPLICATION EXAMPLES:*

- Recognize and avoid phishing threats.
- Effective password management and use of two-factor authentication tools.
- Protect your online privacy to avoid unwanted monitoring.
- Knowledge of safe online purchasing procedures.

#### *IMPORTANCE IN SOCIAL AND PROFESSIONAL CONTEXT:*

- Online security is becoming more and more critical in the digital society, especially due to the increase in cyberattacks.
- In a professional context, the ability to protect data and use technology securely is important for the security of the organization and customers' private information.

#### *ROLE IN THE DEVELOPMENT OF DIGITAL COMPETENCIES:*

- The "Security" area is key to the overall development of digital competencies, ensuring that individuals can navigate safely in the online environment.



- Improving these competencies translates into greater confidence in using technology and minimizing the risk associated with cyber threats.

*SAMPLE TOOLS AND TECHNOLOGIES:*

- Antivirus computer programs.
- Password management tools such as LastPass or 1Password.
- Online privacy software such as VPN.
- Educational platforms for online safety.

The 'Security' competency area at DigComp enables individuals to develop the skills necessary to use digital technologies safely, protecting themselves and their data from a variety of online threats.

## PROTECTING DEVICES

Protection tools are a variety of applications, programs and services that aim to ensure users' digital security by detecting, preventing and eliminating threats related to cyber-attacks and data loss. Here are some of the main types of protection tools:

1. **Antivirus programs:** Antivirus programs are used to scan your computer system to detect and remove malicious software such as viruses, Trojans, worms, and other types of malware. They use databases containing signatures of known malware and heuristics to detect new threats.
2. **Firewalls:** Firewalls are tools used to monitor and control network traffic, prevent unauthorized connections, and protect against network attacks such as DDoS attacks and intrusion attempts. Firewalls can be both hardware (operating at the level of network devices) and software (operating at the operating system level).
3. **Password management programs:** Password management programs allow you to securely store and manage all your online and application passwords in one safe place. They also provide features for generating strong passwords and auto-filling login forms.
4. **Network monitoring tools:** Network monitoring tools allow you to track and analyse network traffic in real-time to detect anomalies, unauthorized activity and potential threats. They may also offer event log analysis and reporting features.
5. **Data encryption software:** Data encryption software allows you to encrypt files, folders, hard drives, and Internet communications to ensure data confidentiality and integrity. It uses various cryptographic algorithms to protect information against unauthorized access.

**Security Management Tools:** Security management tools are comprehensive platforms for managing security policies, monitoring compliance, and managing incidents. They enable centralized security management in large organizations and enterprises.

These tools are crucial to ensuring security in the digital environment and help users protect their data, information and systems from attacks and unauthorized access.

## Set of exercises for learners

Here is a set of activities for adult learners on security tools:

Purpose	The purpose of this practical activity is to engage participants in interactive learning experiences focused on understanding and implementing strategies to protect their devices and personal information in the digital world.
Title of the practical activity:	Digital Security Workshop: Safeguarding Your Devices and Information
Time	90 minutes
Target group	Adult learners, including individuals with varying levels of digital literacy.
Learning outcomes	<p>Understand common threats to device security, such as viruses, scams, and harmful software.</p> <p>Learn practical strategies for protecting devices, including keeping software updated, creating strong passwords, and recognizing digital threats.</p> <p>Gain awareness of encryption and its role in safeguarding personal information online.</p> <p>Develop skills to apply digital security practices effectively in everyday life.</p>
Materials	<p>Handouts summarizing key concepts and security tips</p> <p>Laptops or tablets with internet access for each participant (optional)</p> <p>Flipchart or whiteboard with markers</p> <p>Samples of phishing emails or malware pop-ups (optional)</p> <p>Password strength checker tool (optional)</p>
Facilitation steps	<p><b>Engage:</b> Welcome participants and introduce the workshop's objectives. Conduct an icebreaker activity to gauge participants' current knowledge and experiences with digital security. For example, ask participants to share a memorable experience related to online security or privacy concerns.</p> <p><b>Explore:</b> Present an overview of common threats to device security, including viruses, scams, and harmful software. Use real-life examples and visuals to illustrate each type of threat.</p> <p>Facilitate a discussion on the importance of keeping device software updated and the role it plays in protecting against cyber threats. Encourage participants to share their experiences with software updates and any challenges they may have faced.</p> <p><b>Explain:</b> Introduce strategies for creating strong passwords, such as using a combination of uppercase and lowercase letters, numbers, and symbols. Demonstrate how to use a password strength checker tool to assess the strength of different passwords.</p>

	<p>Discuss additional security measures, such as two-factor authentication and biometric authentication, and explain how they can enhance device security.</p> <p><b>Elaborate:</b> Divide participants into small groups and provide them with scenarios involving potential digital threats, such as receiving a suspicious email or encountering a malware pop-up. Ask each group to brainstorm appropriate responses and solutions to mitigate the threat.</p> <p>Encourage participants to share their solutions with the larger group and facilitate a discussion on the effectiveness of different strategies.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and encouraging participants to apply the digital security practices they have learned in their daily lives.</p> <p>Distribute feedback forms to collect participants' thoughts and suggestions for improving future workshops on digital security.</p>
Methods	<p>Icebreaker activity</p> <p>Presentation with real-life examples and visuals</p> <p>Group discussions and brainstorming</p> <p>Hands-on activities, such as password strength checking</p> <p>Scenario-based learning and problem-solving</p> <p>Q&amp;A sessions for clarification and further exploration</p>
Evaluation	<p>Assess participants based on their engagement in group discussions, participation in hands-on activities, and ability to apply digital security concepts to real-life scenarios. Use feedback forms to gather input on the workshop content, structure, and effectiveness for future improvements.</p>
Reference, events and further reading	<p>Social Engineering: The Science of Human Hacking - Hadnagy, C. (2018)</p> <p>Data and Goliath: The Hidden Battles to Collect Your Data and Control Your World - Schneier, B. (2015)</p> <p>The Smart Girl's Guide to Privacy: Practical Tips for Staying Safe Online - Bennett, V. (2016)</p> <p>Future Crimes: Everything Is Connected, Everyone Is Vulnerable and What We Can Do About It - Goodman, M. (2015)</p>

**Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How do antivirus programs adapt to the evolving landscape of cybersecurity threats, and what strategies do they employ to stay ahead of emerging malware and viruses?
2. What are the key differences between hardware and software firewalls in terms of functionality, effectiveness, and implementation, and how can users determine which type best suits their security needs?
3. How do password management programs balance convenience and security in storing and managing sensitive login credentials, and what measures can users take to ensure the robustness of their password management practices?
4. What are the primary features and capabilities of network monitoring tools, and how do they contribute to proactive threat detection and mitigation within organizational networks?
5. How does data encryption software safeguard sensitive information across various digital platforms and communication channels, and what are the potential implications for user privacy and data security?

## PROTECTING PERSONAL DATA AND PRIVACY

Personal data protection and privacy refers to practices and mechanisms designed to ensure the confidentiality, integrity and availability of personal data and private information. In today's digital world, where more and more information is stored electronically and processed using various technologies, the protection of personal data becomes extremely important. Here are some key aspects of data protection and privacy:

1. The principle of data minimization: It involves collecting only the personal data that are necessary to achieve a specific purpose and limiting their processing to the minimum necessary.
2. Confidentiality and security: Ensuring data confidentiality by appropriately protecting it against unauthorized access, manipulation or disclosure. Various techniques and tools are used for this purpose, such as data encryption, access controls, security audits, etc.
3. Legal Compliance: Ensuring compliance with applicable laws regarding the protection of personal data, such as the General Data Protection Regulation (GDPR) in the European Union, or similar regulations in other jurisdictions.
4. Transparency: Ensuring transparency towards data subjects as to how their data is processed, the purposes of processing and the rights and options they have in terms of privacy protection.
5. Individual rights: Providing data subjects with certain rights related to their data, such as the right to access data, the right to rectify errors, the right to delete data (the so-called "right to be forgotten"), the right to transfer data, etc.
6. Training and awareness: Educating employees and users on personal data protection and awareness of threats related to privacy breaches to minimize the risk of errors or breaches.
7. Monitoring and response: Systematic monitoring of activities related to the processing of personal data to quickly detect possible incidents or breaches, as well as to quickly respond if they occur.

Protecting personal data and privacy is a key element in building trust between organizations and their customers, users and employees. Compliance with the principles

of personal data protection helps prevent unauthorized access, data theft and other threats related to privacy violations.

### Set of exercises for learners

Here is a set of exercises for adult learners on personal data protection and privacy:

Purpose	The purpose of this practical activity is to engage participants in interactive learning experiences focused on understanding and implementing strategies to protect personal data and privacy in the digital world.
Title of the practical activity:	Digital Privacy Workshop: Safeguarding Your Personal Information
Time	90 minutes
Target group	Adults with varying levels of digital literacy, including individuals who may be new to online privacy concepts.
Learning outcomes	Understand the importance of protecting personal data and privacy in the digital world. Learn practical strategies for safeguarding personal information online, including creating strong passwords, recognizing digital threats, and understanding privacy policies. Gain awareness of consent and the importance of making informed decisions about sharing personal information online.
Materials	Handouts summarizing key concepts and privacy tips Laptop or tablet with internet access for demonstration purposes (optional) Flipchart or whiteboard with markers Samples of phishing emails or privacy policy excerpts (optional) Consent form template (optional)
Facilitation steps	<b>Engage:</b> Welcome participants and introduce the workshop's objectives. Conduct an icebreaker activity related to personal privacy, such as asking participants to share their experiences or concerns about online privacy. <b>Explore:</b> Present an overview of personal data and its importance in the digital world. Use relatable examples and analogies to illustrate how personal data can be valuable and vulnerable. Facilitate a discussion on common threats to personal data and privacy online, such as phishing scams, data breaches, and social engineering attacks. Encourage participants to share any experiences or concerns they may have encountered.

	<p><b>Explain:</b> Introduce practical strategies for safeguarding personal information online, including creating strong passwords, enabling privacy settings, and recognizing digital threats. Provide step-by-step guidance on how to implement these strategies effectively. Discuss the role of privacy policies and consent in protecting personal data. Explain how to read and understand privacy policies, and emphasize the importance of making informed decisions about sharing personal information online.</p> <p><b>Elaborate:</b> Divide participants into small groups and provide them with scenarios involving potential privacy concerns, such as receiving a suspicious email or navigating privacy settings on social media platforms. Ask each group to brainstorm solutions and best practices for addressing the scenario. Encourage groups to share their solutions with the larger group and facilitate a discussion on the effectiveness of different strategies.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and encouraging participants to apply the privacy strategies they have learned in their online interactions. Distribute feedback forms to collect participants' thoughts and suggestions for improving future workshops on digital privacy.</p>
Methods	<p>Icebreaker activity</p> <p>Presentation with relatable examples and analogies</p> <p>Group discussions and brainstorming</p> <p>Hands-on activities, such as analyzing phishing emails or privacy policies</p> <p>Scenario-based learning and problem-solving</p> <p>Q&amp;A sessions for clarification and further exploration</p>
Evaluation	<p>Assess participants based on their engagement in group discussions, participation in hands-on activities, and ability to apply privacy strategies to real-life scenarios. Use feedback forms to gather input on the workshop content, structure, and effectiveness for future improvements.</p>
Reference, events and further reading	<p>Digital Minimalism: Choosing a Focused Life in a Noisy World" - Newport, C. (2019)</p> <p>Click Here to Kill Everybody: Security and Survival in a Hyper-connected World" - Schneier, B. (2018)</p> <p>Future Crimes: Everything Is Connected, Everyone Is Vulnerable and What We Can Do About It" - Goodman, M. (2015)</p> <p>The Smart Girl's Guide to Privacy: Practical Tips for Staying Safe Online" - Bennett, V. (2016)</p>



## **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How do organizations balance the collection of necessary personal data with the principle of data minimization to ensure compliance with privacy regulations while still meeting operational needs?
2. What are the most effective encryption methods and access control mechanisms for safeguarding personal data against unauthorized access, and how do these strategies contribute to maintaining data confidentiality and security?
3. How does the General Data Protection Regulation (GDPR) impact global businesses and organizations, and what steps must they take to ensure compliance with its requirements?
4. In what ways can organizations enhance transparency regarding data processing activities to build trust with data subjects, and what communication strategies are effective in achieving this goal?
5. What measures can organizations implement to empower individuals with greater control over their data, and how do these measures align with emerging trends in data privacy legislation and consumer expectations?

## PROTECTING HEALTH AND WELL-BEING

Health and well-being encompass a wide range of practices, activities and decisions designed to maintain or improve the physical, mental and emotional well-being of individuals and communities. This includes prevention, treatment and health promotion at various levels. Here are some key aspects of protecting your health and well-being:

1. **Healthy lifestyle:** Regular physical activity, a healthy diet, good personal hygiene and avoiding harmful substances (such as alcohol, cigarettes, and drugs) are key to maintaining good health.
2. **Prevention:** Regular check-ups, vaccinations, screenings and avoiding risk factors are important to prevent many diseases and maintain health.
3. **Access to health care:** Providing access to high-quality health care, including doctors, specialists, diagnostic tests and medicines, is key to preventing, diagnosing and treating diseases at an early stage.
4. **Promoting mental health:** Taking care of your mental health by developing stress-coping skills, building social support, relaxing regularly, and consciously taking care of your emotions and thoughts.
5. **Health education:** Promoting knowledge about healthy lifestyles, disease prevention, personal hygiene and mental health through education in schools, healthcare facilities and social media.
6. **Work environment and health:** Ensuring safe and healthy working conditions, including appropriate ergonomics, protection from occupational hazards and promoting a healthy lifestyle in the workplace.
7. **Stress management:** Learning stress management techniques such as meditation, yoga, breathing techniques and cognitive behavioural therapy can help reduce the negative effects of stress on health and well-being.

Protecting health and well-being is an essential part of ensuring quality of life for individuals and communities. Improving access to health care, promoting healthy lifestyles and health education are key steps towards building healthier and more sustainable societies.

## Set of exercises for learners

Here is a set of activities for adult learners on health and well-being:

Purpose	The purpose of this practical activity is to engage participants in interactive learning experiences focused on promoting health and well-being in the digital age, especially for adults with low digital literacy.
Title of the practical activity:	Digital Wellness Workshop: Nurturing Health and Balance Online
Time	90 minutes
Target group	Adults with varying levels of digital literacy, including individuals who may be new to concepts of digital wellness.
Learning outcomes	Understand the importance of maintaining a healthy balance between online and offline activities for overall well-being. Learn practical strategies for promoting mental, emotional, and physical health in the digital age. Gain awareness of resources and support networks available for navigating digital challenges and promoting digital wellness.
Materials	Handouts summarizing key concepts and wellness tips Laptop or tablet with internet access for demonstration purposes (optional) Flipchart or whiteboard with markers Samples of cyberbullying scenarios or ergonomic tips (optional) Contact information for local community resources and online support groups (optional)
Facilitation steps	<b>Engage:</b> Welcome participants and introduce the workshop's objectives. Conduct an icebreaker activity related to digital wellness, such as asking participants to share their favourite offline activities or their experiences with managing screen time. <b>Explore:</b> Present an overview of the importance of maintaining health and balance in the digital age, focusing on the potential impacts of excessive screen time on mental, emotional, and physical well-being. Facilitate a discussion on common challenges faced by adults with low digital literacy, such as feelings of isolation, stress from online interactions, and physical discomfort from prolonged screen use. <b>Explain:</b> Introduce practical strategies for promoting digital wellness, including setting boundaries for screen time, practising mindfulness, and incorporating movement breaks into daily routines. Provide step-by-step guidance on how to implement these strategies effectively. Discuss the availability of resources and support networks for individuals seeking assistance with digital challenges or mental health concerns. Share information on local community resources,

	<p>helplines, and online support groups where participants can access guidance and support.</p> <p><b>Elaborate:</b> Divide participants into small groups and provide them with scenarios related to digital wellness challenges, such as managing screen time, dealing with cyberbullying, or incorporating physical activity into daily routines. Ask each group to brainstorm solutions and strategies for addressing the scenario.</p> <p>Encourage groups to share their solutions with the larger group and facilitate a discussion on the effectiveness of different approaches.</p> <p><b>Evaluate:</b> Conclude the workshop by summarizing key takeaways and encouraging participants to apply the digital wellness strategies they have learned in their daily lives. Distribute feedback forms to collect participants' thoughts and suggestions for improving future workshops on digital wellness.</p>
Methods	<p>Icebreaker activity</p> <p>Presentation with relatable examples and analogies</p> <p>Group discussions and brainstorming</p> <p>Hands-on activities, such as scenario analysis or role-playing exercises</p> <p>Q&amp;A sessions for clarification and further exploration</p>
Evaluation	<p>Assess participants based on their engagement in group discussions, participation in hands-on activities, and ability to apply digital wellness strategies to real-life scenarios. Use feedback forms to gather input on the workshop content, structure, and effectiveness for future improvements.</p>
Reference, events and further reading	<p>Indestructible: How to Control Your Attention and Choose Your Life - Eyal, N. (2019).</p> <p>Bored and Brilliant: How Spacing Out Can Unlock Your Most Productive and Creative Self - Zomorodi, M. (2017)</p> <p>The Healthy Mind Toolkit: Simple Strategies to Get Out of Your Own Way and Enjoy Your Life - Boyes, A. (2018)</p> <p>The Human Era: Thriving in the Digital Landscape - Carr, N. (2021)</p>

**Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can communities promote and facilitate access to high-quality healthcare services for underserved populations, particularly in remote or economically disadvantaged areas?

2. What innovative approaches can be employed to enhance health education efforts and promote healthy lifestyles among different age groups and demographics, considering the evolving landscape of media consumption and information dissemination?
3. In what ways can workplaces effectively integrate health promotion programs and initiatives into their organizational culture to support employee well-being and productivity?
4. How can advancements in technology, such as telemedicine and health-tracking apps, be leveraged to improve access to healthcare services and empower individuals to take a more proactive role in managing their health?
5. What policies and strategies can governments implement to address social determinants of health, such as poverty, education, and environmental factors, and how do these initiatives contribute to promoting health equity and overall well-being within communities?

## PROTECTING THE ENVIRONMENT

Environmental protection is a comprehensive set of activities and strategies aimed at preserving, protecting and restoring ecological balance and the sustainable use of natural resources. It covers a wide range of areas of action aimed at minimizing the negative impact of human activity on ecosystems, preserving biodiversity and ensuring a healthy living environment for humans and other forms of life on Earth. Here are some key aspects of environmental protection:

1. **Conservation of biodiversity:** Conservation of biodiversity is crucial to ensuring the stability of ecosystems and the survival of many species. Activities in this area include the protection of natural habitats, preventing the extinction of species, creating protected areas and promoting the sustainable use of natural resources.
2. **Sustainable use of natural resources:** Environmental protection requires the effective and sustainable use of natural resources such as water, energy, soil and mineral resources. Activities in this area include rational land-use planning, optimization of energy consumption, promotion of renewable energy sources and the use of technologies and innovations promoting resource efficiency.
3. **Protecting air, water and soil:** Ensuring clean air, water and soil is crucial to human health and the functioning of ecosystems. Activities in this area include reducing emissions of pollutants into the atmosphere, purifying water and soil from harmful substances, monitoring environmental quality and educating society about the consequences of environmental pollution.
4. **Environmental education and awareness:** Promoting environmental education and public ecological awareness is a key element of environmental protection. Activities in this area include ecological education in schools and educational institutions, information and educational campaigns, and the promotion of pro-ecological attitudes and behaviours in everyday life.
5. **Sustainable development:** Environmental protection is closely related to the concept of sustainable development, which assumes a balance between the needs of the present generation and the capabilities of future generations. Activities in this area include taking into account ecological criteria in the process of making

economic, social and political decisions and promoting development models based on the principles of sustainable development.

Environmental protection is an essential element of building a lasting and sustainable society and ensuring the well-being of people and nature for future generations. It requires the involvement of all sectors of society and taking coordinated and long-term actions at various levels, from local to global

### Set of exercises for learners

Here is a set of exercises for adult learners about environmental protection:

This activity/exercise has been created to practice the newly developed skills

Purpose	The purpose of this practical activity is to engage participants in experiential learning focused on understanding and mitigating their digital environmental footprint, within the context of the DigIN Multi-Pack Educational Program.
Title of the practical activity:	Eco-Friendly Digital Makeover: Reducing Your Digital Environmental Footprint
Time	90 minutes
Target group	Adults with limited digital literacy participate in the DigIN Multi-Pack Educational Program.
Learning outcomes	Understand the concept of a digital environmental footprint and its implications for environmental sustainability. Learn practical strategies for reducing digital waste and promoting responsible consumption of electronic devices. Gain awareness of the importance of e-waste recycling and environmental stewardship in the digital age.
Materials	Handouts summarizing key concepts and practical tips Samples of electronic devices and e-waste recycling information Flipchart or whiteboard with markers Laptops or tablets with internet access for demonstration purposes (optional) Recycling bins or containers for sorting waste (optional)
Facilitation steps	<b>Engage:</b> Welcome participants and introduce the topic of environmental sustainability in the digital age. Conduct an interactive icebreaker activity where participants share their experiences with

	<p>digital devices and online activities, highlighting any concerns or questions they may have about their environmental impact.</p> <p><b>Explore:</b> Present an overview of the concept of a digital environmental footprint, explaining how everyday digital activities contribute to environmental degradation. Facilitate a discussion on the environmental consequences of digital consumption, focusing on topics such as energy consumption, e-waste generation, and resource depletion.</p> <p><b>Explain:</b> Introduce practical strategies for reducing digital waste and promoting responsible consumption of electronic devices. Provide step-by-step guidance on decluttering digital spaces, purchasing energy-efficient devices, and extending the lifespan of electronic products. Discuss the importance of e-waste recycling and highlight local recycling centres or initiatives where participants can dispose of their old electronic devices responsibly.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a scenario related to digital environmental sustainability, such as reducing energy consumption or promoting e-waste recycling. Ask groups to brainstorm eco-friendly solutions and strategies based on their assigned scenario, encouraging creativity and collaboration. Provide time for groups to present their ideas to the larger group and facilitate a discussion on the feasibility and impact of each proposed solution.</p> <p><b>Evaluate:</b> Conclude the activity by summarizing key takeaways and encouraging participants to apply the eco-friendly strategies they have learned in their daily lives. Distribute feedback forms to collect participants' thoughts and suggestions for improving future sessions on digital environmental sustainability.</p>
Methods	<p>Interactive icebreaker activity</p> <p>Presentation with visual aids and real-life examples</p> <p>Group discussions and brainstorming</p> <p>Hands-on activities, such as sorting e-waste or creating eco-friendly action plans</p> <p>Q&amp;A sessions for clarification and further exploration</p>
Evaluation	<p>Assess participants based on their engagement in group activities, participation in discussions, and understanding of key concepts related to digital environmental sustainability. Use feedback forms to gather input on the effectiveness of the practical activity and identify areas for improvement.</p>
Reference, events and further reading	<p>E-Waste: Implications, Regulations, and Management in India and Current Global Best Practices" - Nnorom, I. C., &amp; Osibanjo, O. (2008)</p> <p>The Circular Economy: A Wealth of Flows" - Webster, K. (2015)</p> <p>Responsible Consumption and Production" - United Nations Sustainable Development Goals Report (2018)</p> <p>Sustainable Digital Technologies: Examples from the Nordic Region" - Nordic Council of Ministers (2019)</p>



## **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can governments and organizations incentivize industries to adopt more sustainable practices and reduce their environmental footprint, particularly in sectors with historically high levels of pollution?
2. What role can technological innovations, such as green energy technologies and sustainable agriculture practices, play in advancing environmental protection efforts and mitigating the impacts of climate change?
3. How can communities actively engage in habitat restoration and conservation initiatives to enhance biodiversity and promote ecosystem resilience, especially in urban areas where natural habitats may be scarce?
4. What strategies can be employed to bridge the gap between environmental education and action, ensuring that individuals and communities translate their knowledge and awareness into tangible pro-environmental behaviours and lifestyle changes?
5. In what ways can international cooperation and diplomatic efforts be strengthened to address transboundary environmental challenges, such as deforestation, marine pollution, and climate change, and foster global solidarity towards achieving shared environmental goals?

## COMPETENCE AREA: PROBLEM-SOLVING

Problem-solving is the ability to effectively and creatively deal with various challenges and difficulties that may occur in various spheres of life. This area of competence includes several skills that allow you to identify, analyse, formulate strategies and implement solutions effectively and efficiently. Here are some key elements describing this area of competence:

1. **Problem Identification:** The first step in the problem-solving process is to identify the specific problem or challenge we are facing. This involves precisely defining the nature of the problem, its causes and consequences.
2. **Situation analysis:** The next step is situation analysis, in which we carefully examine and reason about the complexity of the problem, its context and the existing factors influencing its occurrence. Various research methods and analytical techniques are used at this stage.
3. **Strategy Formulation:** Based on the analysis of the situation, action strategies are created to solve the problem or address the challenge. As part of this process, goals are defined, activities are planned and the methods and tools necessary to achieve success are selected.
4. **Solution implementation:** The next step is to implement the selected strategy by implementing the planned activities. This includes coordinating the team, allocating resources, monitoring progress and making any adjustments during implementation.
5. **Evaluation and adaptation:** After implementing the solution, it is necessary to evaluate its effectiveness and evaluate the results. Based on this information, decisions are made about possible adjustments to the strategy or further steps.

Problem-solving is a key competence in both personal and professional life. It requires flexibility in thinking, the ability to analyse situations and the ability to make effective decisions. People with well-developed problem-solving skills can cope more effectively with difficulties, achieve goals and achieve success in both their professional and private lives.

### *DESCRIPTION OF THE COMPETENCE AREA:*

- The Problem-Solving area of DigComp focuses on skills related to identifying, analysing and effectively solving problems using digital tools and resources.
- This includes the ability to think logically, make data-driven decisions, and effectively use technology to solve a variety of problems.

### *COMPETENCE CATEGORIES:*

- Ability to identify and define problems in a digital context.
- Applying data analysis to assess situations and develop effective problem-solving strategies.
- Ability to use digital tools to collect information and support the decision-making process.
- Creative thinking and searching for innovative solutions.

### *APPLICATION EXAMPLES:*

- Data analysis to identify trends and issues.
- Using diagramming and statistical analysis tools in the decision-making process.
- The use of algorithms and artificial intelligence to solve more advanced problems.
- Using a team collaboration platform to effectively solve group problems.

### *IMPORTANCE IN SOCIAL AND PROFESSIONAL CONTEXT:*

- Problem-solving skills are crucial both in everyday life and in professional contexts, where effectively dealing with challenges is becoming increasingly valued.
- In a professional context, employees who can solve problems effectively are more flexible and adapt better to changing labour market conditions.

### *ROLE IN THE DEVELOPMENT OF DIGITAL COMPETENCIES:*

- The area of "Problem Solving" is key to the overall development of digital competencies, enabling individuals to effectively deal with technological challenges and problematic situations in the digital environment.

- Improving these competencies translates into better management of crises and the ability to think innovatively in solving problems.

#### *SAMPLE TOOLS AND TECHNOLOGIES:*

- Data analysis tools such as Microsoft Excel and data visualization tools.
- Team collaboration platforms, such as Slack or Microsoft Teams.
- Diagramming tools such as Lucidchart or Draw.io.
- Artificial intelligence algorithms and tools to analyse and solve more advanced problems.

The "Problem-Solving" competency area at DigComp enables individuals to effectively cope with the challenges of the digital world by developing analytical skills, logical thinking and a creative approach to problem-solving.

## SOLVING TECHNICAL PROBLEMS

Technical troubleshooting is a process that involves identifying, analysing, and resolving problems related to technology, hardware, software, or other technical issues. It is a key skill in many fields such as computer science, engineering, and manufacturing, as well as in everyday life, especially in the digital age. Here are some key aspects of solving technical problems:

1. **Problem Identification:** The first step is to precisely define the technical problem. It may be a hardware failure, software error, difficulty in system operation or other functionality that does not work. It is important to precisely define the symptoms of the problem and understand its nature and causes.
2. **Situation Analysis:** Next, you need to conduct a situation analysis to understand the context of the problem and its source. At this stage, various diagnostic techniques, tests and monitoring tools are used to identify the causes of the problem.
3. **Formulating a solution strategy:** After thoroughly analysing the problem, it is necessary to formulate a solution strategy. This may include selecting appropriate tools, repair procedures, modifying software or hardware, or implementing new technological solutions.
4. **Implementation of the solution:** The next step is to implement the proposed strategy. This may require specific remediation actions, system configurations, software updates or changes to manufacturing processes.
5. **Testing and evaluating effectiveness:** Once the solution has been implemented, testing should be performed to verify its effectiveness and assess whether the problem has been resolved. It is also important to monitor the system to detect any recurring problems or the need for further improvements.
6. **Documentation and reporting:** The final stage is to prepare documentation about the problem, the solutions used and the test results. This documentation can serve as a knowledge base for future actions and enable quick response if the problem reoccurs.

Solving technical problems requires both solid technical knowledge as well as analytical skills and logical thinking. Technical problem solvers must be flexible, creative and able to respond quickly to emergencies.

### Set of exercises for learners

Here is a set of exercises for adult learners to solve technical problems:

Purpose	The purpose of this practical activity is to engage participants in hands-on learning to develop their skills in troubleshooting and resolving common technical problems encountered in the digital environment.
Title of the practical activity:	Digital Troubleshooting Workshop: Mastering Technical Problem Solving
Time	90 minutes
Target group	Adults with limited digital literacy participate in the DigIN Multi-Pack Educational Program.
Learning outcomes	Identify common technical problems encountered with devices and digital tools. Understand how to interpret error messages and diagnose technical issues accurately. Implement effective troubleshooting steps to resolve technical problems promptly and independently.
Materials	Sample devices with simulated technical problems (e.g., laptops, smartphones, routers) Handouts summarizing common technical problems and troubleshooting steps Whiteboard or flipchart with markers Troubleshooting guidebooks or manuals Tools for hardware diagnostics (optional) Spare cables and adapters (optional)
Facilitation steps	<b>Engage:</b> Welcome participants and introduce the purpose of the workshop: to enhance their skills in troubleshooting common technical problems encountered in the digital environment. Conduct a brief icebreaker activity where participants share their experiences with overcoming technical challenges. Encourage them to discuss any strategies or solutions they have used in the past. <b>Explore:</b> Present an overview of common technical problems encountered with devices and digital tools, including hardware failures, software malfunctions, and connectivity issues. Use real-life examples to illustrate each type of problem.

	<p>Discuss the importance of interpreting error messages accurately in diagnosing technical issues. Highlight key terms and phrases commonly found in error messages and their significance in troubleshooting.</p> <p><b>Explain:</b> Provide participants with handouts summarizing common technical problems and troubleshooting steps. Review each problem scenario and discuss the corresponding steps to resolve them effectively.</p> <p>Demonstrate how to implement troubleshooting steps using sample devices with simulated technical problems. Encourage participants to follow along and ask questions as needed.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a specific technical problem scenario to solve. Provide them with sample devices and troubleshooting guidebooks to assist in the process.</p> <p>Allow time for groups to collaborate and apply the troubleshooting steps learned to diagnose and resolve the assigned technical problem. Encourage them to document their process and findings.</p> <p><b>Evaluate:</b> Reconvene as a larger group and invite each group to present their findings and solutions. Facilitate a discussion on the effectiveness of different troubleshooting strategies and the challenges encountered.</p> <p>Summarize key takeaways from the workshop and encourage participants to apply their newfound troubleshooting skills in their daily lives. Distribute feedback forms to gather input on the workshop's effectiveness and areas for improvement.</p>
Methods	<p>Icebreaker activity for engagement</p> <p>Presentation with real-life examples and error message interpretation</p> <p>Hands-on troubleshooting practice with sample devices</p> <p>Group collaboration and problem-solving</p> <p>Discussion and reflection on troubleshooting strategies</p>
Evaluation	<p>Assess participants based on their engagement in group activities, ability to apply troubleshooting steps effectively, and contributions to group discussions. Use feedback forms to gather input on the workshop's relevance and usefulness for participants' learning needs.</p>
Reference, events and further reading	<p>Troubleshooting &amp; Repairing Consumer Electronics Without a Schematic by Homer L. Davidson offers in-depth troubleshooting techniques for electronics.</p> <p>Troubleshooting with the Windows Sysinternals Tools by Mark Russinovich and Aaron Margosis guides diagnosing and fixing Windows-related issues.</p>

## **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can individuals improve their troubleshooting skills to effectively address a wide range of technical issues, considering the rapid pace of technological advancement and complexity of modern systems?
2. In what ways can organizations streamline their technical problem-solving processes to minimize downtime, optimize resource allocation, and enhance overall operational efficiency?
3. What role do emerging technologies, such as artificial intelligence and machine learning, play in automating or augmenting the technical problem-solving process, and how can they be integrated into existing workflows effectively?
4. How can interdisciplinary collaboration between technical experts from different domains, such as IT specialists, engineers, and data analysts, facilitate more holistic problem analysis and innovative solutions to complex technical challenges?
5. What strategies can be employed to cultivate a culture of continuous learning and knowledge sharing within technical teams, ensuring that lessons learned from past problem-solving experiences are leveraged to improve future practices and outcomes?



## IDENTIFYING NEEDS AND TECHNOLOGICAL RESPONSES

Recognizing technological needs and solutions is the ability to identify and understand the needs of users and organizations in the context of technology, and then propose appropriate technological solutions that can effectively meet these needs. This includes analysing existing problems or challenges and looking for new opportunities or improvements that can be achieved with appropriate technologies. Key elements of this area of competence include:

1. **Understanding User Needs:** The first step in identifying technology needs and solutions is to understand user needs and requirements. This means actively listening, analysing and communicating with stakeholders to better understand what they need and what problems they want to solve.
2. **Problem and Challenge Analysis:** The next step is to thoroughly analyse existing problems or challenges that users or organizations may be encountering. This includes identifying the causes of problems and understanding the context in which they occur.
3. **Researching available technologies:** Once you have identified your needs and problems, the next step is to research available technologies that can help solve them. This requires knowledge of various technological solutions, their functions and possible applications.
4. **Proposed solutions:** Based on the analysis of needs and available technologies, the next step is to formulate proposals for technological solutions that can effectively meet these needs and solve users' problems. These proposals may include the selection of specific technologies, software, applications or implementation strategies.
5. **Evaluation of solutions:** After submitting proposals for solutions, it is necessary to evaluate their effectiveness and feasibility. For this purpose, various factors must be taken into account, such as costs, implementation time, risks and expected benefits.
6. **Implementation of solutions:** The final stage is the implementation of selected technological solutions. This includes planning, implementation, and

implementation monitoring to ensure that solutions meet user expectations and deliver intended benefits.

Recognizing technological needs and solutions is a key element of the effective use of technology to improve the efficiency, innovation and competitiveness of the organization and meet the needs of users. This requires a holistic approach that takes into account both technical and business aspects.

### **Set of exercises for learners**

Here is a set of exercises for adult learners on identifying technology needs and solutions:

Purpose	The purpose of this practical activity is to engage participants in hands-on learning to develop their skills in identifying needs and matching them with appropriate technological solutions, specifically focusing on practical scenarios encountered in the digital environment.
Title of the practical activity:	Digital Needs Assessment and Technology Matching Workshop
Time	90 minutes
Target group	Adults with limited digital literacy participate in the DigIN Multi-Pack Educational Program.
Learning outcomes	Identify common technological needs encountered in the digital environment. Explore various technological solutions available to address specific needs. Understand the process of matching needs with appropriate technological responses. Develop problem-solving skills through hands-on practice and collaboration.
Materials	Sample devices (e.g., smartphones, laptops, tablets) Handouts summarizing common technological needs and corresponding solutions Whiteboard or flipchart with markers Technology demonstration tools (e.g., projector, screen) Internet access for research purposes Worksheets for participants to document their findings and solutions

Facilitation steps	<p><b>Engage:</b> Welcome participants and introduce the purpose of the workshop: to develop skills in identifying technological needs and matching them with appropriate solutions. Conduct a brief discussion to explore participants' experiences with encountering technological challenges in their daily lives. Encourage them to share examples of specific needs they have encountered and how they attempted to address them.</p> <p><b>Explore:</b> Present an overview of common technological needs encountered in the digital environment, such as accessing online documents, synchronizing data between devices, and connecting to wireless devices. Use real-life examples to illustrate each need. Introduce various technological solutions available to address each identified need. Discuss the characteristics, capabilities, and limitations of different technologies to help participants understand their suitability for specific situations.</p> <p><b>Explain:</b> Provide participants with handouts summarizing the identified technological needs and corresponding solutions. Review each scenario and discuss potential technological responses. Encourage participants to ask questions and seek clarification as needed. Demonstrate how to research and explore technological solutions using sample devices and internet resources. Guide participants through the process of evaluating different technologies based on their features and suitability for specific needs.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a specific technological need scenario to address. Provide them with sample devices, handouts, and access to internet resources to research and identify appropriate solutions. Allow time for groups to collaborate and brainstorm potential technological responses to their assigned scenarios. Encourage them to consider factors such as cost, usability, and compatibility when selecting solutions.</p> <p><b>Evaluate:</b> Reconvene as a larger group and invite each group to present their findings and solutions. Facilitate a discussion on the effectiveness of different technological responses and their suitability for addressing specific needs. Summarize key takeaways from the workshop and encourage participants to apply their problem-solving skills in identifying and addressing technological needs in their daily lives. Distribute feedback forms to gather input on the workshop's effectiveness and areas for improvement.</p>
Methods	<ul style="list-style-type: none"> <li>Group discussion and sharing of experiences</li> <li>Presentation with real-life examples of technological needs</li> <li>Hands-on exploration of technological solutions</li> <li>Group collaboration and problem-solving activities</li> <li>Group presentations and facilitated discussions</li> </ul>

Evaluation	Assess participants based on their engagement in group activities, ability to identify appropriate technological solutions, and contributions to group discussions. Use feedback forms to gather input on the workshop's relevance and usefulness for participants' learning needs.
Reference, events and further reading	LinkedIn Learning for Online Courses: <a href="#">LinkedIn Learning</a> TechCrunch for Latest Tech Trends: <a href="#">TechCrunch</a> CNET Reviews and Guides: <a href="#">CNET</a>

## Brainstorming Sessions

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can organizations enhance their processes for understanding and documenting user needs to ensure that technological solutions are aligned with users' expectations and requirements?
2. In what ways can businesses effectively prioritize and analyze the multitude of technological needs and challenges they face to identify the most pressing issues that warrant immediate attention and investment?
3. What strategies and methodologies can be employed to conduct comprehensive research into available technologies and their potential applications, considering factors such as scalability, interoperability, and long-term viability?
4. How can stakeholders collaborate effectively throughout the process of proposing and evaluating technological solutions to ensure that diverse perspectives are considered, and decisions are made based on well-informed insights and consensus?
5. What measures can organizations implement to ensure successful implementation and adoption of selected technological solutions, including strategies for change management, training, and ongoing support to address any potential barriers or challenges?

## CREATIVELY USING DIGITAL TECHNOLOGIES

Creative use of digital technologies is the ability to creatively and innovatively use various tools, platforms and digital resources to create innovative solutions, projects, content or products. This includes consciously using available technologies to generate new ideas, experiment with various forms of digital media, and transform vision into reality through technology. Key elements of this area of competence include:

1. Creativity and innovation: The ability to generate innovative ideas and approaches to the use of digital technologies in various areas of life, from art and design to business and education.
2. Understanding of digital technologies: Awareness of available digital tools, platforms and technologies and the ability to use them to achieve intended goals.
3. Experimentation and exploration: Openness to experimenting with various forms of digital media and the ability to research and test new technologies to discover their creative potential and application possibilities.
4. Mixed Media Integration: The ability to combine different digital media, such as text, images, audio, video, and interactive elements, to create comprehensive and attractive designs.
5. Problem Solving: Ability to identify problems and challenges and find creative solutions using digital technologies.
6. Teamwork: Ability to collaborate with others to create digital projects, share ideas and effectively use different skills and perspectives.
7. Critical thinking: The ability to analyse and assess the quality of created projects and the ability to independently think critically and reflect on one's work.

The creative use of digital technologies can be used in various fields, such as art, design, marketing, education, science and entertainment. This requires flexibility, openness to change and readiness for continuous development in the use of new technologies and digital tools.

## Set of exercises for learners

Here is a set of exercises for adult learners on the creative use of digital technologies:

This activity/exercise has been created to practice the newly developed skills

Purpose	The purpose of this practical activity is to engage participants in hands-on learning to develop their skills in creatively using digital technologies, specifically focusing on digital storytelling as a means of expression and communication.
Title of the practical activity:	Digital Storytelling Workshop: Unleashing Creativity with Technology
Time	90 minutes
Target group	Adults interested in exploring digital storytelling as a creative medium.
Learning outcomes	Understand the concept of digital storytelling and its applications. Gain practical skills in planning, creating, and sharing digital stories using technology. Enhance creativity and communication skills through the development of digital storytelling projects. Explore various digital tools and platforms for creating multimedia narratives. Reflect on the impact of digital storytelling on personal expression and communication.
Materials	Computers or laptops with internet access Digital cameras or smartphones for capturing images (optional) Headphones with microphones for audio recording (optional) Presentation slides or handouts outlining the basics of digital storytelling Sample digital storytelling projects for inspiration Digital storytelling software or apps (e.g., Book Creator, Plotagon, Tellagami) Flipchart or whiteboard with markers Evaluation forms for feedback
Facilitation steps	<b>Engage:</b> Welcome participants to the workshop and introduce the concept of digital storytelling. Highlight the power of storytelling as a means of expression and communication in the digital age. Facilitate a brief discussion to explore participants' experiences with storytelling and their interest in using digital tools for creative expression. Encourage them to share any previous experiences with digital storytelling, if applicable. <b>Explore:</b> Present an overview of digital storytelling, including its definition, elements, and potential applications. Use examples of digital stories to illustrate different styles and formats.

	<p>Introduce participants to various digital storytelling tools and platforms available. Provide a demonstration of how to use a selected tool or app to create a simple digital story.</p> <p><b>Explain:</b> Guide participants through the process of planning a digital storytelling project. Discuss key steps such as choosing a story topic, gathering media assets, scripting the narrative, and selecting appropriate digital tools.</p> <p>Review best practices for creating engaging digital stories, including storytelling techniques, visual design principles, and audio recording tips. Emphasize the importance of creativity and authenticity in storytelling.</p> <p><b>Elaborate:</b> Divide participants into small groups and assign each group a digital storytelling project topic or theme. Encourage groups to brainstorm ideas, outline their stories, and select relevant media assets for their projects.</p> <p>Provide hands-on support and guidance as participants work on their digital storytelling projects. Circulate among the groups to answer questions, provide feedback, and offer technical assistance as needed.</p> <p><b>Evaluate:</b> Reconvene as a larger group and allow each group to present their digital storytelling projects to the rest of the participants. Encourage constructive feedback and discussion on the strengths and areas for improvement of each project.</p> <p>Facilitate a reflection session where participants share their insights and takeaways from the workshop. Ask participants to discuss how digital storytelling can be applied in their personal or academic lives moving forward.</p> <p>Distribute evaluation forms and invite participants to provide feedback on the workshop content, format, and facilitation. Use this feedback to inform future workshops and improve the learning experience.</p>
Methods	<p>Presentation and discussion on digital storytelling concepts and techniques</p> <p>Hands-on practice with digital storytelling tools and platforms</p> <p>Group brainstorming and project planning activities</p> <p>Individual and group work on digital storytelling projects</p> <p>Peer feedback and reflection sessions</p>
Evaluation	<p>Assess participants based on their engagement in group activities, creativity in storytelling, proficiency in using digital tools, and ability to present their projects effectively. Use evaluation forms to gather feedback on the workshop content, facilitation, and overall learning experience. Adjust future workshops based on participant feedback and areas for improvement.</p>
Reference, events and further reading	<p>Websites and apps mentioned in the text for creating digital stories</p> <p>TED Talk: <a href="#">Joe Sabia: The technology of storytelling</a></p> <p>Further reading on digital storytelling techniques and best practices</p>



## **Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can individuals or teams foster a culture of creativity and innovation within their organization to encourage the creative use of digital technologies across various projects and initiatives?
2. What strategies and approaches can educators employ to promote the development of creative digital skills among students, ensuring they are equipped to navigate and leverage emerging technologies effectively?
3. In what ways can organizations create environments that encourage experimentation and exploration with digital tools and technologies, fostering a mindset of continuous learning and discovery?
4. What role does interdisciplinary collaboration play in enhancing the creative use of digital technologies, and how can diverse teams leverage their unique perspectives and expertise to drive innovation?
5. How can individuals cultivate their critical thinking skills to evaluate the effectiveness and impact of their creative digital projects, incorporating feedback and iteration to refine their work and achieve desired outcomes?



## IDENTIFYING DIGITAL COMPETENCE GAPS

Recognizing digital skills gaps involves identifying areas where individuals, organizations or communities have insufficient digital skills or knowledge. This is a key step in the process of developing digital competencies because it allows you to identify areas that require improvement or further training. Here are some key elements of this process:

1. **Needs analysis:** The first step is to conduct a needs analysis, which allows you to identify specific areas where digital competencies are lacking. This can be done through surveys, interviews, observations or assessments of tasks and projects where digital skills are lacking.
2. **Identifying Missing Skills:** The next step is to identify the specific skills or knowledge that are needed but lacking by individuals or organizations. This may include knowledge of basic digital tools and applications, the ability to solve technical problems, or the ability to use the Internet safely and effectively.
3. **Assessing Competency Levels:** Once you have identified your missing skills, it is necessary to determine your current level of competency in these areas. This may be done through tests, practice assessments, self-assessments or assessments by others.
4. **Action planning:** Based on the needs analysis and competency level assessment, an action plan can be developed to improve digital skills. The plan may include training, online courses, self-education, mentoring, or practice in selected areas.
5. **Monitoring progress:** It is important to regularly monitor your progress in acquiring new digital skills and adjust your action plan if necessary. This can be done through regular assessments, tests or checking the results of work and projects.
6. **Improving competencies:** The process of identifying gaps in digital competencies is cyclical and should be continued to constantly improve skills and adapt to changing needs and technologies.

## Set of exercises for learners

Here is a set of exercises for adult learners on how to recognize digital competence gaps:

Title	Digital Storytelling Workshop
Purpose	The purpose of this activity is to teach participants digital storytelling skills by guiding them through the process of creating their multimedia narratives.
Time	90 minutes
Target group	Adults 55+ educators, trainers, or anyone interested in developing digital storytelling skills.
Learning outcomes	Participants will learn the basics of digital storytelling. Participants will gain hands-on experience in creating a digital story. Participants will understand the importance of storytelling in various contexts.
Materials	Laptops or tablets with internet access Headphones with microphones (optional) Images or videos related to personal stories or topics of interest (participants can bring their own or use provided resources) Paper and pens for brainstorming
Facilitation steps	<p><b>Engage:</b> Start by discussing the importance of storytelling in education, business, and personal expression. Share examples of impactful digital stories from various sources to inspire participants.</p> <p><b>Explore:</b> Introduce participants to the concept of digital storytelling and its components (e.g., narrative, multimedia elements, editing). Provide an overview of digital storytelling tools and platforms mentioned in the session materials. Allow participants to explore some of the recommended digital storytelling apps or websites briefly.</p> <p><b>Explain:</b> Guide participants through the steps of creating a digital story: Choosing a story or topic: Participants can select a personal experience, a social issue, or any other topic they're passionate about. Gathering materials: Encourage participants to collect images, videos, or audio clips related to their chosen story. Writing a script: Assist participants in developing a script that outlines the narrative of their digital story. Recording voice-over (if applicable): Guide recording clear and expressive voice-overs to accompany the visuals. Editing the digital story: Demonstrate basic editing techniques using the chosen digital storytelling tool.</p> <p><b>Elaborate:</b> Allow participants to work individually or in pairs to create their own digital stories.</p>

	<p>Provide assistance and guidance as needed, answering questions and troubleshooting technical issues.</p> <p>Encourage creativity and experimentation with multimedia elements to enhance the storytelling experience.</p> <p><b>Evaluate:</b> Facilitate a sharing session where participants can present their digital stories to the group.</p> <p>Encourage feedback and constructive criticism from peers to help participants improve their storytelling skills.</p> <p>Reflect on the workshop experience and discuss how participants can apply digital storytelling techniques in their professional or personal projects.</p>
Methods	<p>Hands-on practice with digital storytelling tools</p> <p>Group discussion and sharing sessions</p> <p>Peer feedback and evaluation</p>
Evaluation	<p>Participants' ability to create engaging digital stories</p> <p>Participation and engagement during the workshop</p> <p>Feedback received from peers and facilitators</p>
References	<p>Additional resources on digital storytelling techniques and tools</p> <p>Relevant workshops or events related to digital media and storytelling</p> <p>Websites or platforms for sharing digital stories created during the workshop</p>

**Brainstorming Sessions**

Facilitate small group discussions where learners engage in collaborative exploration of predetermined questions. Subsequently, the group leader will consolidate and present the collective findings to the larger group for discussion and analysis.

1. How can organizations effectively conduct needs analyses to identify digital competence gaps among their employees or members, considering the diverse range of skills required in today's digital landscape?
2. What methods and tools can individuals use to accurately assess their current level of digital competency across different skill areas, enabling them to target areas for improvement more effectively?
3. In what ways can communities or educational institutions collaborate with industry partners to identify emerging digital skills gaps and develop targeted training programs to address these needs?

4. What role can mentorship and peer learning play in bridging digital competence gaps, and how can organizations facilitate these opportunities to support continuous skill development?
5. How can the effectiveness of digital competence improvement initiatives be measured and evaluated over time, ensuring that efforts to address identified gaps are yielding meaningful results and impact?

## CONCLUSION

The DigIN Multi-Pack Programme for Trainers represents a groundbreaking initiative poised to drive significant advancements in digital transformation within adult education organisations. By offering easily adaptable e-courses and focusing on empowering trainers with proficiency in digital technologies, this programme is at the forefront of revolutionizing online andragogy-based digital skills development for adult educators.

Through its specific objectives, methodology rooted in active learning, and focus on essential digital competencies, the DigIN Multi-Pack Programme is designed to address the evolving needs of adult learners and educators. By establishing a dedicated e-platform and providing tailored guidance and tutorials, the programme ensures inclusivity and accessibility, with special attention given to vulnerable adults and educators working with vulnerable groups.

The use of the 5E Model of Instruction further enhances the effectiveness of the programme, providing a structured approach to skill acquisition that promotes engagement, exploration, explanation, development, and assessment. Aligned with five broad areas, the programme's learning objectives aim to equip participants with the essential skills needed to thrive in the digital age.

With its diverse target groups, including trainers, adult learners, and adult education organizations, the DigIN Multi-Pack Programme offers a comprehensive solution to digital readiness. Accessible to all individuals, the programme fosters inclusivity and ensures that participants have the necessary tools to succeed in the digital landscape.

Upon completion of the programme, participants emerge with a newfound proficiency in various digital competencies, laying the foundation for continued growth and success. The DigIN Multi-Pack Educational Programme stands as a testament to the power of innovative digital education ecosystems in driving positive change and empowering individuals and organizations to thrive in the digital era.

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