Beyond lack of Understanding
Beyond disInformation

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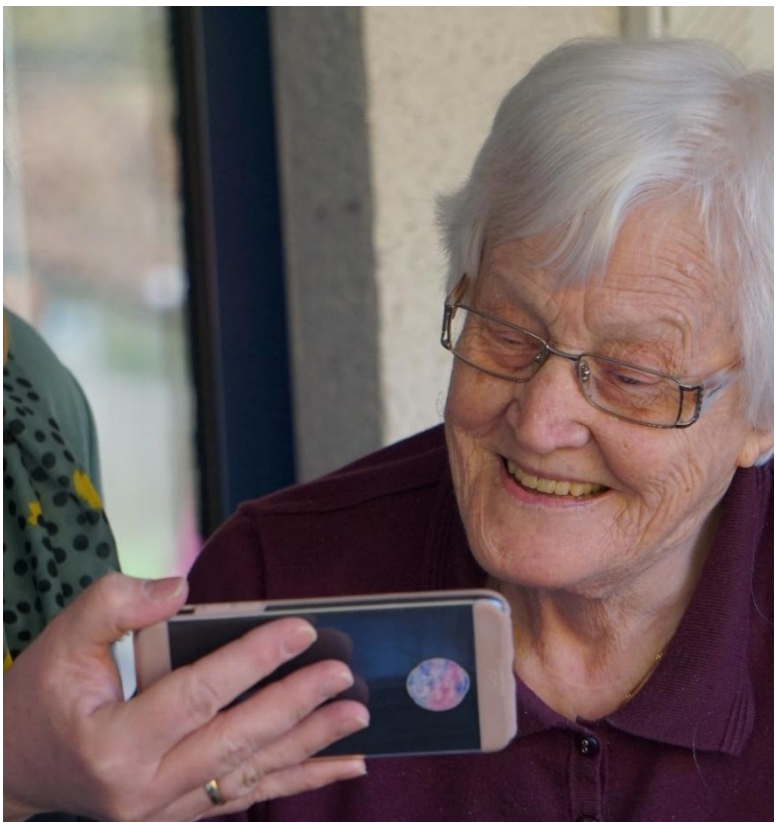
BU.BI
Beyond lack of Understanding, Beyond disInformation



WP3

Innovative Educational Modules Guidelines

idec

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INTRODUCTION

The development of the training modules for adults (55+ and/or with low digital skills) was grounded in a structured, field data informed, and collaborative process that combined methodological consistency with active partner engagement. The process began with setting the theoretical and pedagogical framework and then desining specific tools for data collection and FG delivery (questionnaires and structured templates) were developed by IDEC.

In specific, an **entry questionnaire** engaged the participants to comprise the project's sample, who took part in the focus groups (FGs) to identify specific weaknesses and needs in their daily interactions in the digital environment. This questionnaire was used to profile participants' backgrounds and initial competences. **FG specification guidelines** were developed by IDEC for the partners to organize, sructure and document the focus group activities along with **FG delilvery guidelines** for the facilitators and a **FG report template**. After FG implementation, a **satisfaction questionnaire** captured the participant's reflections on the experience. The supporting materials of the a detailed templates outlining focus group specifications and structure and a comprehensive guideline for reporting were prepared and disseminated among partners to ensure consistency and clarity in implementation. These resources facilitated the systematic collection of comparable data across contexts while ensuring that participant perspectives were accurately represented.

In a series of partner meetings partners had opportunities to review progress, align methodological approaches, and exchange insights, thereby reinforcing the collaborative nature of the project. The combination of structured instruments, clear reporting procedures, and continuous partner dialogue created a solid foundation for translating focus group findings into training needs and thus tailored educational materials that directly address the requirements of the target groups.

Focus groups

As part of the project's effort to investigate the specific needs and challenges encountered by adults aged 55+ as well as adults with low digital skills, a series of structured focus groups were designed and implemented as **Live Labs experiences**. The primary objective of these sessions was to examine essential dimensions of **current digital literacy skills and challenges**, focusing on functional literacies, numeracy, problem solving, and the ability to critically assess and manage information distortions, in order to identify weaknesses and design training modules especially focusing on such populations.

The process was carefully structured to ensure both consistency and depth of inquiry: participants were guided through a sequence of thematic discussions, allowing for the systematic exploration of individual experiences, perceptions, and barriers in the digital environment. This methodological approach was selected not only to capture qualitative insights but also to provide a coherent framework through which **comparable data** could be collected across different groups.

The data derived from these focus groups constitute an evidence base for the development of **targeted educational resources and practical guidelines**. These guidelines are intended to respond directly to the specific needs identified by participants, ensuring that the resulting material is both relevant and adaptable to the realities of the groups concerned.

By grounding the design of educational tools in the lived experiences of adults with limited digital competences, the project seeks to promote more effective digital inclusion strategies. Ultimately, this process ensures that the educational material developed does not emerge from abstract assumptions, but from a rigorous and participatory process that places the voices of end-users at the centre of curriculum design.

The **appendices** hereto include the **data collection and FG delivery tools** designed and developed throughout the process (entry questionnaire, satisfaction questionnaire, FG specifications, structure and reporting templates).

The entry questionnaire aimed to profile the target audience via a wide spectrum of needs, problems and criticalities in recognizing fake news and, generally, in the correct understanding of the news. The satisfaction questionnaire provided feedback from the participants on the quality and adequacy of the FG sessions. Both questionnaires were anonymous. Data were collected both in live sessions (face to face encounters with the researchers) and online sessions (via Google Forms questionnaires accessible online) and then were processed and compared across countries. Target groups were the same in all countries (adults 55+ and/or with low digital skills).

In total **150 seniors** (30 from each partner – 1 partner in Italy (AFORISMA), 2 partners in Greece (IDEC and University of Peloponnese), 1 partner in Slovenia (Zasavska Ijudska Univerza) and 1 partner in Croatia (Pucko Otvoreno Uciliste Koprivnica)) have participated in the focus groups. The selected candidates attended the Living Labs held in the respective countries, Italy, Greece, Slovenia, and Croatia.

These specific social groups can be considered '**digitally disadvantaged'** or **'vulnerable populations'** because of the lack of opportunities offered for the development of necessary digital skills to access and navigate the Web. Functional and digital literacies are the necessary competences for the fully conscious consumption of digital content, be it news or entertainment online, but also online transactions and everyday tasks (banking, shopping, communicating, critically reading the news, evaluating scientific information and content related to health, environment, businesses, etc). FG participants had the possibility to elaborate, during the Living Labs, their needs and their difficulties in the digital world. The Living Labs were coordinated and moderated by facilitators identified by the partners specialized in education and training, who coordinated group activities and focused on the project-specific themes.

This design process supports the general project objective, which is that seniors' and low skilled adults can develop both functional digital literacies (in specific, literacy, numeracy and problem solving in complex contexts) and information literacy skills (to tackle misinformation and critically assess online information) to support their inclusion in a digital world through creative activities and the use of technological tools (Metaverse).

Team building and data collection

The FG sessions aimed to understand team members' skills and vulnerabilities, enhance their capacity in managing innovative educational tools, and support the development of training modules in Eduverse. Key objectives included recognizing how functional literacies affect the critical consumption of online information and detection of disinformation, by identifying and reducing functional vulnerabilities, enhancing staff capabilities with new educational tools, and creating innovative training modules.

The project built on prior methodologies and experiences, including the Living Labs methodology, insights from FIDO, and applications within Eduverse. These provide a foundation for collaborative, hands-on learning and skill development. The Living Labs methodology emphasizes participant-driven, collaborative learning focused on skills development, responsibility, trust, and self-confidence. Core processes include envisioning goals, planning steps, implementing, monitoring, and guiding activities. Essential tools and skills include time and stress management, organizational capabilities, reporting, meta-cognitive skills, and adherence to guidelines and best practices.

Team-building activities were designed to foster creativity, teamwork, and professional rapport. Activities such as “Two Truths and a Lie” encouraged team members to share professional experiences, while collaborative storytelling challenges and common goals mapping aligned vision and promoted group cohesion. Speed networking allowed participants to exchange expertise, while puzzle hunts and alphabet brainstorming stimulated problem-solving and creative thinking. Visual exercises, like “Picture Your Expertise,” helped individuals reflect on personal skills, and “What If?” challenges encourage innovative approaches to potential obstacles.

Hands-on activities further strengthen skills. Exercises like spotting fake news and analysing manipulated visuals enhance literacy, problem-solving, and visual literacy. Digital privacy awareness and source-checking exercises develop technical and information-validation skills, while social media literacy activities explore algorithmic bias and echo chambers. Numeracy exercises focus on detecting misleading statistics, and Eduverse visits promote digital literacy and peer learning. Also scenario roleplays and recognition of emotional manipulation build critical thinking and decision-making.

FG specifications

The FGs sessions implemented a Living Labs approach, which is both facilitator-led and participant-driven. The sessions aimed to foster a new mindset, promote community building, and develop skills such as asking for assistance, taking responsibility, and building trust. The focus groups emphasized collaborative work, self-confidence, and both individual and collective benefits, supporting engagement and knowledge exchange. Facilitators prepared sessions by creating welcoming environments, ensuring technology access, and providing printed materials such as glossaries and real vs. fake examples. Icebreakers and safe, non-judgmental discussions help participants feel comfortable sharing experiences and perspectives.

Engagement techniques included open-ended questions, storytelling, pair work, and group exercises such as sorting real and fake headlines. Participants were introduced to user-friendly tools to cross-check information, with demonstrations of verifying claims and had the opportunity to remark on their abilities or weaknesses to function in complex digital environments.

The FG coordination was carefully led by facilitators in order to keep focus on functional literacies (literacy, numeracy and problem solving). Literacy, numeracy, and problem-solving form the backbone of skill development. Literacy activities included critical reading, vocabulary building, lateral reading, syntax exercises, and netiquette, often reinforced through multiple-choice exercises. Numeracy training focused on statistics, graphs, budgeting, and percentage calculations. Problem-solving exercises ranged from navigating apps and comparing multimedia information to CAPTCHA challenges, tangrams, and mobile story analysis. Challenges such as limited digital literacy, fear of technology, sensory impairments, cognitive overload, distrust of new information, physical discomfort, varied knowledge levels, reluctance to participate, jargon barriers, and lack of access to devices were also addressed and tailored solutions were proposed by the participants to ensure inclusion and effective learning.

Sessions included extended discussions among participants about their challenges and needs and concluded with a wrap-up summarizing key takeaways, including questioning sources, fact-checking, and awareness of emotional appeals. Feedback was gathered from all participants to guide follow-up sessions and further learning opportunities.

Focus group logistics included: sessions lasted approximately 3 hours with breaks, accessible venues were provided, such as community centres or libraries, and materials were used, including digital devices, projectors, handouts, flipcharts, markers, and sticky notes. The agenda typically covered an introduction, understanding misinformation, understanding functional literacies, identifying

challenges, hands-on activities, open discussion, and feedback collection. Accessibility considerations ensured all participants could engage fully and continue learning beyond the session.

Steps for Conducting Focus Groups on Misinformation

The FGs structure and implementation followed the following guidelines, developed by IDEC in WP3. Data (participants' remarks, questions, fears, proposals, etc) were collected promptly by the facilitator in each session:

1. **Plan the Focus Group Approach**
    - Use a Living Labs methodology: facilitator-led and participant-driven.
    - Emphasize collaboration, trust, responsibility, and self-confidence.
    - Promote community building and sustainable engagement.
2. **Define Objectives**
    - Empower participants to identify, analyse, and avoid misinformation.
    - Teach critical evaluation of online content.
    - Build confidence in navigating digital information sources.
3. **Prepare the Environment and Materials**
    - Create a welcoming space with comfortable seating, lighting, and refreshments.
    - Set up technology: tablets, laptops, projector, large screen.
    - Prepare printed handouts, glossaries, and examples of real vs. fake content.
4. **Introduce the Session**
    - Start with an icebreaker to build rapport (e.g., "What news sources do you trust?").
    - Explain why misinformation is harmful using relevant examples.
    - Use visual aids to illustrate how misinformation spreads.
5. **Engage Participants with Techniques**
    - Ask open-ended questions and encourage storytelling.
    - Facilitate pair work and group exercises (e.g., sorting real vs. fake headlines).
    - Provide demonstrations of fact-checking tools and techniques.
6. **Teach Tools and Tips**
    - Introduce simple, user-friendly verification tools.
    - Teach cross-checking and fact-checking practices.
    - Explain common misinformation tactics like clickbait, emotional manipulation, and misleading visuals.
7. **Address Challenges**
    - **Limited digital literacy:** provide tech tutorials.
    - **Fear of technology:** reassure and guide step-by-step.
    - **Hearing/vision issues:** use large print, microphones, and clear visuals.
    - **Cognitive overload:** break content into small segments.
    - **Distrust of new information:** foster open discussion.
    - **Physical discomfort:** ensure breaks and comfortable seating.
    - **Varied knowledge levels:** pair experienced participants with novices.
    - **Reluctance to participate:** use small groups and non-threatening icebreakers.
    - **Jargon barriers:** use plain language and glossaries.
    - **Lack of device access:** partner with libraries or community centers.
8. **Wrap-Up the Session**
    - Summarize key takeaways: question sources, fact-check, and recognize emotional appeals.
    - Ask participants to share one learning.

    - Provide take-home materials: checklists, trusted fact-checking websites, and glossaries.
9. **Collect Feedback and Plan Follow-Up**
    - Use simple feedback forms to identify helpful topics and improvements.
    - Suggest follow-up resources: online courses, workshops, or advanced sessions.
    - Encourage participants to share learnings with others.
10. **Logistics and Accessibility**
    - Session duration: 1.5–2 hours with breaks.
    - Venue: accessible, quiet, well-lit, with comfortable seating arranged for interaction.
    - Materials: devices, projector, handouts, flipcharts, markers, sticky notes.
    - Accessibility: large fonts, high-contrast visuals, microphones, adjustable pace.

This structured was followed by facilitators in all sessions in all countries, for reasons of consistency of delivery and comparability of data collected.

FG reporting

After implementation of the FGs all partners used a well structured template to report findings. The template was designed by IDEC in such a way so as to allow comparisons and faciliated conclusions from the data collected.

The BUBI Focus Group Report Template provided a clear and systematic framework for documenting the outcomes of focus group sessions conducted with adults with low digital skills. It included essential contextual information—such as country, date, location, facilitator, and participant demographics—to situate the findings and allow for comparison across settings. The initial section outlined the objectives of the focus groups, which included assessing digital literacy and functional literacy needs, identifying difficulties in recognizing misinformation, and capturing participants' preferences for training methods. This structured overview ensured that both the scope of the discussion and the characteristics of the participants are consistently recorded, providing a reliable foundation for interpreting results.

The template was designed to capture both quantitative and qualitative data in an organized manner. Quantitative findings were linked directly to the recruitment questionnaire, allowing researchers to translate participant discussions into measurable outcomes (e.g., percentages, distribution of responses, or satisfaction scores). Table formats facilitated the recording of results, either by theme, by functional literacy dimension, or by distinguishing between researcher-guided and spontaneous contributions. This flexibility enabled researchers to adapt reporting to context while maintaining comparability across groups. In this way, the template bridged structured data collection with the nuanced insights that emerged from open discussion.

The qualitative component emphasized the documentation of key themes, challenges, and participant insights in areas such as reading literacy, numeracy, problem solving in digital environments, and strategies for tackling misinformation. Researchers were encouraged to note recurring difficulties, additional concerns, and illustrative participant quotes, thereby enriching the findings with real-world perspectives.

The final section of the template focused on formulating recommendations, highlighting priority training areas, potential improvements in functional literacy support, and gaps that require further research. Overall, the template was structured to guide researchers through a comprehensive reporting process, ensuring that focus group outcomes directly inform the design of effective, evidence-based training materials.

Anticipated Challenges and Weaknesses in Adult Digital Literacy

The whole project's scope is based on the acknowledgement that adults face a range of challenges and weaknesses in developing functional literacies and digital skills. Digital illiteracy limits their ability to engage confidently with technology. Resistance to new technologies is common, often reinforced by a lack of self-confidence and entrenched mindsets. Physical limitations and restricted prior education can further hinder skill acquisition. Additionally, fear of failure, slow learning pace, and a general perception of personal inadequacy can contribute to difficulty in embracing digital tools and literacy practices. These challenges highlight the importance of designing supportive, patient, and adaptive learning environments that account for diverse abilities and experiences and inform the designing process of suitable training modules.

Activities That Support Learning

To address these challenges, practical and accessible learning activities are crucial. Adults benefit from hands-on practice and the use of simplified tools that make digital tasks approachable. Step-by-step instructions and real-life scenario simulations help learners apply skills in meaningful contexts. Individual support, repetition, and consistent practice reinforce learning, while visual aids and accessible content make information easier to process. Simple technological solutions, including intuitive interfaces and guided workflows, further facilitate engagement and reduce frustration. By combining these approaches, learners are better able to build confidence and acquire functional literacy skills effectively.

Expected Challenges in Training

Certain challenges are likely to persist during training, despite well-designed interventions. Participants often progress at different speeds and may show resistance to change, particularly when faced with new technologies. Technological barriers, including lack of access to devices or internet connectivity, can impede learning. Motivation levels vary, and learners may require personalized materials and ongoing support to maintain engagement. Managing expectations, addressing physical limitations, and accommodating restricted resources are additional considerations that must be incorporated into the planning and delivery of digital literacy programs.

Literacy Skills

Functional literacies encompass a broad set of competencies essential for navigating both written and digital information. Reading comprehension and critical evaluation of texts allow learners to understand and analyse content effectively. Written communication, oral expression, and the ability to summarize texts enhance the clarity and utility of information sharing. Identifying biases in texts and synthesizing information from multiple sources enables informed decision-making. Furthermore, decoding symbolic information and interpreting legal or official documents are vital skills for participating fully in civic and professional contexts. Understanding complex instructions and organizing information coherently supports practical literacy in everyday situations.

Numeracy Skills

Numeracy is equally essential for daily life and digital engagement. Core competencies include basic arithmetic operations, estimating quantities, and interpreting graphs or diagrams. Calculating percentages, ratios, and analysing statistical data facilitate informed decision-making. Budgeting, financial planning, and comparing economic options allow learners to manage personal and household

finances effectively. Understanding interest rates, assessing risk in decision-making, and solving real-world mathematical problems enhance both autonomy and confidence in managing numerical information. These numeracy skills provide the foundation for financial literacy and evidence-based decision-making in various contexts.

Problem Solving in Technology-Rich Environments

Effective problem solving in digital contexts requires a combination of technical and cognitive skills. Adults must learn to navigate digital tools and platforms, verify the reliability of online information sources, and use search engines efficiently. Managing data security and privacy, identifying and avoiding online fraud, and operating software and applications are fundamental to safe and effective technology use. Troubleshooting digital issues, applying critical thinking in online environments, and adapting to new technologies ensure learners remain flexible and resilient. Collaboration through digital communication tools enhances teamwork and social engagement in increasingly connected settings, supporting both professional and personal digital participation.

LESSONS FROM THE FOCUS GROUPS

Based on the responses provided by the focus group (FG) participants (adults aged 55+ and younger individuals who demonstrated limited or insufficient digital competencies) as documented in the national reports, a series of overarching and recurring weaknesses in Digital Literacy were identified. These common gaps constituted the foundation for the structured design and development of targeted training modules. The primary aim of these modules is to strengthen participants' literacy, numeracy and problem-solving abilities, along with general digital literacy skills, which are essential in today's increasingly digital society.

More specifically, the training is oriented towards equipping participants with the necessary skills to remedy the weaknesses identified; more specifically, to: effectively operate digital devices and applications; successfully complete a range of tasks that involve the use of digital media and online environments; critically assess, navigate, and manage digital content; and, importantly, develop a heightened awareness of misinformation and disinformation circulating online. Such skills are indispensable for enabling individuals to engage meaningfully and safely in both personal and professional contexts.

The in-depth findings gathered from all consortium countries where focus groups were carried out revealed a set of common areas in which participants displayed considerable difficulties. These cross-national patterns highlight the urgent need for improvement in fundamental domains of digital engagement and serve as a valuable guide for shaping the pedagogical focus of the training modules. The detailed findings from all consortium countries showed the following general areas that require improvement:

(a) Literacy Skills

One of the most prominent areas of weakness revealed through the focus groups concerns **literacy skills in digital contexts**. Participants consistently highlighted difficulties not only with basic reading comprehension but also with the more advanced critical and interpretive abilities required to navigate today's complex digital environment. The challenges reported go beyond technical obstacles and extend into issues of confidence, motivation, and emotional resilience. These findings underscore the importance of addressing literacy as a multidimensional competency—one that encompasses the ability to read, interpret, and evaluate digital information, while also fostering the self-assurance necessary to engage with online content independently. The main aspects identified across countries can be summarised as follows:

- **Reading comprehension:** Ability to read and understand various types of online content (articles, posts, emails, messages) critically and contextually.
- **Evaluating sources:** Recognizing credible sources versus unreliable or biased information by analysing author credentials, website reputation, publication date, etc.
- **Identifying misinformation:** Detecting misleading headlines, clickbait, fake news, and propaganda through careful reading, parallel reading and cross-checking facts.
- **Language skills:** Understanding digital jargon, abbreviations, and nuanced language often used online, including recognizing sarcasm or satire, both in content in websites and in social media interactions.

- **Communication:** Effectively expressing arguments, questions or doubts about online content and seeking clarification or additional information.
- **Emotional barriers:** Many participants reported experiencing anxiety, shame, or lack of confidence when encountering digital content, often leading to avoidance of reading or interaction altogether.
- **Perceived digital inferiority:** Feelings of inadequacy and self-stigmatization, especially when relying on others to read or interpret content, were frequently described.

(b) Numeracy Skills

Another critical dimension of digital competence identified during the focus groups relates to **numeracy skills**, which play a vital role in enabling individuals to critically engage with the growing prevalence of data-driven content online. Participants frequently emphasized challenges in interpreting and making sense of numerical information, particularly when it was embedded in articles, infographics, or social media posts. These difficulties not only limited their ability to assess the reliability of information but also heightened feelings of uncertainty and mistrust toward quantitative claims. In several cases, participants reported that the presentation of numbers—whether through complex graphs, percentages, or visualizations—created additional barriers due to issues of accessibility, cognitive overload, or lack of familiarity with digital tools. Collectively, these findings highlight the urgent need to strengthen numeracy as an essential element of digital literacy, ensuring that individuals can confidently evaluate, compare, and verify numerical information encountered online. The key areas requiring improvement include:

- **Interpreting data and statistics:** Understanding graphs, charts, percentages, and numerical claims presented in articles or social media posts to assess the validity of information.
- **Recognizing manipulated numbers:** Identifying when numbers might be exaggerated, misrepresented, or selectively presented to mislead (e.g., in health claims or political statements).
- **Comparing quantitative information :** Ability to compare statistics or numerical data across multiple sources to detect inconsistencies.
- **Using tools for verification:** Employing calculators, conversion tools, or websites that require some numerical input or interpretation.
- **Visual complexity and accessibility**: Some participants noted difficulty interpreting figures due to poor eyesight, cognitive fatigue, or screen layout complexity.
- **Trust issues**: Older adults expressed mistrust toward numerical claims, especially when visualizations or data came from unfamiliar platforms.

(c) Problem-Solving Skills

A further area of concern emerging from the focus groups is the set of **problem-solving skills** required to navigate the digital environment effectively and independently. Participants revealed significant challenges in applying critical and reflective thinking to online interactions, particularly when confronted with overwhelming volumes of information or potentially misleading content. Many expressed uncertainty about how to verify information, protect their personal data, or make informed choices when navigating digital platforms. Beyond technical competencies, the findings also

underscored emotional and social dimensions of problem-solving: participants frequently reported frustration, loss of autonomy, and dependence on others—particularly in carrying out essential digital tasks such as banking or accessing e-government services. Equally important was the call for psychologically safe learning environments, where individuals could explore new digital tools at their own pace, ask questions freely, and rebuild confidence in their own abilities. Taken together, these insights highlight the need for a holistic approach to problem-solving skills, encompassing both technical strategies and the cultivation of resilience, independence, and trust. The main areas requiring attention include:

- **Critical thinking:** Applying logic to question the intent behind information and to distinguish fact from opinion or misinformation.
- **Verifying information:** Using multiple sources to confirm the accuracy of information before accepting or sharing it.
- **Navigating online platforms:** Understanding how to use search engines effectively, filter search results, and utilize browser tools (e.g., ad blockers).
- **Managing abundance of information:** Learning how to manage cognitive load when in technologically rich environments with abundant information
- **Managing digital security:** Identifying suspicious links, phishing attempts, and securing personal data while browsing or interacting online.
- **Seeking help:** Knowing when and how to ask for assistance or consult trusted resources to clarify confusing or suspicious information.
- **Loss of autonomy**: A recurring concern was the need to depend on family members for critical digital tasks such as banking or interacting with government services, often accompanied by feelings of helplessness or lost dignity.
- **Need for psychological safety**: Several participants emphasized the importance of slow-paced, low-pressure learning environments where they could ask questions without fear of judgment.

In summary, the findings from the focus groups across consortium countries reveal that gaps in **digital skills and functional literacy, numeracy, and problem-solving skills** are interconnected and collectively hinder individuals' ability to participate fully and confidently in the digital society. Weaknesses in literacy skills affect the capacity to read, interpret, and critically evaluate online content, while limitations in numeracy restrict the ability to understand and assess the credibility of data-driven information. At the same time, insufficient problem-solving skills exacerbate these challenges by making it difficult for participants to verify sources, navigate platforms securely, and maintain autonomy in carrying out essential digital tasks. Importantly, these deficits are not only technical but also emotional, with many participants reporting feelings of anxiety, mistrust, dependence, and diminished confidence when engaging online. The evidence therefore points to the need for a comprehensive, multidimensional approach to training—one that addresses functional skills while also fostering psychological safety, self-efficacy, and resilience. By doing so, individuals of all ages, particularly those over 55 and younger participants with limited digital experience, can be better equipped to use technology critically, securely, and independently in both their personal and professional lives.

Challenges

Our focus groups reveal various **challenges** that low skilled adults face in their everyday life when dealing with digital media and data, as identified in the questionnaires and further analysed in the discussions held in each FG session. These challenges create feelings of frustration and marginalization, as people feel that, while they were independent in the physical world, now they are completely dependent on others and feel totally illiterate in the digital world. The challenges that occurred during the Focus Groups are categorized below:

1. **Literacy (Reading & Critical Thinking)**

The first and perhaps most fundamental category of challenges identified relates to **literacy skills**, particularly in the areas of reading and critical thinking within digital contexts. Participants repeatedly emphasized the difficulty of engaging with written online content, often describing feelings of confusion, fatigue, or even anxiety when confronted with texts that were lengthy, complex, or filled with unfamiliar terminology. These barriers not only limited their ability to understand and evaluate information critically but also contributed to a sense of dependency on others. The main issues raised can be summarized as follows:

• Difficulty processing long or complex digital texts, especially those with emotional or vague language.
• Avoidance of reading due to anxiety, fatigue, or lack of confidence.
• Poor distinction between types of content: ads, news, and opinions are often conflated.
• Minimal awareness of authorship, source credibility, or verification practices.
• Surface-level reading practices such as reading only headlines, which increase susceptibility to manipulation.
• Shame and embarrassment about asking for help in reading online content, leading to silent avoidance.
• Anxiety linked to unfamiliar terminology, especially English-based digital expressions.
• Preference for oral explanations or face-to-face communication rather than written digital information.

2. **Numeracy (Interpreting Data & Graphs)**

The second category of challenges concerns **numeracy skills**, particularly the ability to interpret and critically engage with data and graphical information presented online. Many participants expressed confusion when confronted with numerical claims, statistical comparisons, or visual representations such as graphs and charts. This difficulty was compounded by a lack of awareness of how numbers can be framed or selectively presented to influence perception, leading to either unquestioning acceptance of data or complete mistrust of it. In addition, practical barriers such as visual strain and screen fatigue further discouraged engagement with data-heavy content. The most common issues highlighted include:

• Confusion between absolute and relative numbers, which leads to misinterpretation of statistical information.
• Difficulty reading or trusting graphs, especially those used in health, crime, or economic news.
• Lack of understanding of statistical framing and how it can be used manipulatively.
• Passive engagement with numeric content—numbers are often accepted without question.
• Visual impairments and screen fatigue reduce willingness to interpret data-heavy content.

3. Problem Solving (digital navigation & decision making)

The third category of challenges is linked to **problem-solving skills**, particularly in relation to digital navigation and decision-making. Participants reported significant difficulties when required to complete practical tasks online, such as accessing public service portals, managing banking procedures, or filling out digital forms. These challenges were often intensified by the overwhelming volume of information and multitasking demands of modern digital platforms, which many found confusing and exhausting. Emotional factors such as stress, fear of making irreversible mistakes, and reliance on others—especially younger family members—further undermined their sense of autonomy and confidence. The recurring issues can be summarized as follows:

- Trouble navigating online environments, where action is required, mainly
  - public service portals,
  - banking systems,
  - subscription forms,
- Trouble completing online tasks, such as payments, filling in forms, interacting with public bodies or banks
- Inability to manage information overload in technology rich environments and multitasking interfaces.
- Emotional fatigue, stress, and fear of errors, which lead to avoidance of problem-solving situations.
- Reliance on intuition or familiarity instead of structured troubleshooting approaches.
- Strong dependence on younger family members, perceived as humiliating or privacy-threatening.
- Recurrent expression of “fear of breaking something” or “doing something irreversible” during digital tasks.

It is evident that comprehensive and targeted training is required for this demographic group (people with low digital skills, namely, 55+ or younger ages lacking digital skills), as our study shows repeated motives in the challenges people face, in all countries.

Highlights

Across all consortium countries, the focus groups revealed a striking convergence in the types of digital challenges faced by participants, confirming that issues of literacy, numeracy, and problem-solving are common and deeply rooted among adults with limited digital skills. While the overall patterns were similar, some country-specific nuances were observed—particularly in the area of literacy. In **Greece**, participants frequently stressed difficulties with English-based terminology and digital jargon, which often created additional barriers to comprehension. In **Italy**, especially older individuals or those with lower cognitive skills, lacked confidence in their ability to navigate digital environments or critically evaluate information. Among **Slovenian** participants on the other hand, when evaluating text-based information most of the participants reported good reading comprehension, as well as good production skills; however, most participants acknowledged they do not check the facts found online, which could be dangerous in terms of frauds, as well as in native advertising. In **Croatia**, participants demonstrated **surface-level reading habits**,while engagement with longer texts was limited, and there was a clear need for more critical reflection and time to interpret and evaluate written information effectively. Despite these variations, the findings consistently point to the need for tailored but harmonized training approaches across the consortium, ensuring that both shared and context-specific needs are effectively addressed.

Training design guidelines - Curriculum development

Based on the analysis of the data collected and the insights gained from the focus groups conducted across Greece, Italy, Slovenia, and Croatia, we recommend the following guidelines for the development of training modules aimed at enhancing digital skills among adults aged 55 and above, as well as younger individuals lacking sufficient digital experience. As mentioned in the previous section, the findings from the focus groups revealed consistent challenges across all participating countries, including difficulties in literacy, numeracy, and problem-solving within digital environments, compounded by emotional and psychological barriers such as anxiety, lack of confidence, and fear of making mistakes. While some country-specific nuances were identified, the overarching need for comprehensive and accessible training was universal. Participants exhibited surface-level reading habits, minimal engagement with longer texts, limited critical reflection, confusion with numerical and graphical data, difficulties navigating complex online platforms, and over-reliance on younger family members, all of which hindered their autonomy and ability to participate effectively in digital society.

In response to these challenges, the proposed guidelines emphasize a multidimensional approach to curriculum design, integrating literacy, numeracy, problem-solving, and digital confidence-building strategies, while also taking into account emotional safety, cultural preferences, and accessibility considerations. The aim is to create modular, flexible, and learner-centered training that empowers participants to engage critically, navigate digital platforms independently, and develop resilience and self-efficacy in an increasingly technology-driven world. Building on these insights, the following section outlines our consortium's specific, practical recommendations for designing training modules that address the identified skill gaps, incorporate country-specific considerations, and foster both technical competence and digital confidence among participants.

1. Pedagogical strategies

Effective training for adults with limited digital skills requires a learner-centered, supportive, and contextually relevant approach that goes beyond technical instruction. Based on the insights gathered from the focus groups, it is clear that participants face not only cognitive challenges, such as difficulties with literacy, numeracy, and problem-solving, but also emotional and psychological barriers, including anxiety, fear of mistakes, and feelings of dependence or inadequacy. To address these multifaceted needs, pedagogical approaches must emphasize real-life relevance, connecting learning activities to practical situations such as managing banking operations, interpreting health information, or completing digital forms. Instruction should be carefully scaffolded, gradually increasing in complexity while allowing learners to build confidence and mastery at each stage. Creating a psychologically safe environment is essential: mistakes should be normalized and treated as learning opportunities, peer learning and collaboration should be encouraged, and learners' questions and concerns must be validated without judgment. Integrating motivational strategies, such as positive reinforcement and testimonials from peers, can help reduce anxiety and foster a growth mindset, while differentiated pacing ensures that participants can progress at a comfortable speed without pressure or unfavorable comparison. Together, these principles provide the foundation for training that is not only effective in developing digital skills but also empowering, inclusive, and responsive to the emotional and cognitive needs of adult learners.

To implement these strategies effectively, the following pedagogical principles are recommended for the development of training modules: firstly, training should center on practical, real-life tasks that learners are likely to encounter, such as navigating banking platforms, interpreting health-related information, or completing digital forms, ensuring that learning is meaningful and directly applicable

(*problem-centered learning*). Instruction should be carefully scaffolded, beginning with simple, manageable steps and gradually introducing more complex tasks as learners gain confidence and competence (*scaffolding*). Mistakes should be normalized and framed as valuable opportunities for reflection and growth (*normalization of mistakes*), while collaboration and peer learning are encouraged to allow participants to share experiences, support each other, and engage in self-assessment (*peer learning and collaboration*). Equally important is the cultivation of emotional safety: learners' anxieties and uncertainties should be acknowledged and validated, with the understanding that asking questions and "not knowing" are natural parts of the learning process (*environment of emotional safety*). Motivation can be fostered through positive reinforcement and the sharing of success stories, helping participants develop a growth mindset and build resilience (*motivation and growth mindset*). Finally, the training should accommodate differentiated pacing, allowing each learner to progress at a comfortable speed without pressure or comparison, thereby promoting confidence, autonomy, and long-term engagement with digital skills (*differentiated pacing*).

The following list translates these pedagogical principles into concrete strategic guidelines for our training modules, providing practical recommendations for structuring learning experiences that are engaging, supportive, and tailored to the needs of adult digital learners:

- Use problem-cantered learning grounded in real-life contexts like banking, health info, and digital forms.
- Scaffold instruction to start simple and gradually build complexity.
- Normalize mistakes, share and learn from mistakes and create a supportive, safe learning environment.
- Foster peer learning and group collaboration and provide self-assessment opportunities.
- Encourage emotional safety by validating learners' fears, normalizing not knowing, and affirming that every question is welcome.
- Integrate motivational elements (e.g., positive reinforcement, learner testimonials) to reduce anxiety and build a growth mindset.
- Allow for differentiated pacing so that learners can progress without pressure or comparison to others.

In conclusion, the recommended pedagogical strategies provide a foundational framework for designing training that is both effective and empowering for adults with limited digital skills. By centering learning on real-life tasks, scaffolding instruction, normalizing mistakes, and fostering peer collaboration, the approach addresses not only cognitive but also emotional and motivational needs. Emphasizing emotional safety, motivation, and differentiated pacing ensures that learners can progress at their own speed, build confidence, and develop a growth mindset. Collectively, these principles create a supportive, inclusive, and adaptive learning environment that not only enhances digital literacy, numeracy, and problem-solving skills but also promotes autonomy, resilience, and sustained engagement with the digital world.

2. Training methods

Designing effective training for adults with limited digital skills requires methods that are engaging, interactive, and tailored to the specific challenges identified in the focus groups. Participants benefit most from approaches that allow them to actively practice tasks in realistic and supportive contexts, rather than passively receiving information. Step-by-step workshops that simulate real-life digital activities—such as navigating online forms, making payments, or managing public service portals—help learners build competence through hands-on experience. Gamified elements, such as interactive exercises or digital platforms like Eduverse, can increase motivation, sustain attention, and encourage

repeated practice in a low-pressure environment. Peer-led discussions and digital storytelling are particularly valuable in group settings, fostering shared learning, reflection, and confidence-building. Training should also include exercises that engage learners in analyzing real headlines, articles, and visuals, developing critical literacy, numeracy, and problem-solving skills while remaining grounded in everyday contexts, which can also be used in self-learning environments. Visual aids such as guides, glossaries, and printable handouts support comprehension and retention, while “safe-to-fail” scenarios allow learners to make mistakes in a controlled environment and learn from them without fear or embarrassment. Finally, all content should be adapted to accommodate cognitive or sensory limitations, including larger fonts, high-contrast visuals, and simplified interface walkthroughs, ensuring that training is accessible, inclusive, and supportive for all participants.

The following examples illustrate concrete ways to implement these principles in practice, providing a variety of engaging, hands-on, and accessible methods that address both the technical and emotional needs of adult learners.

- Step-by-step workshops using simulations of real digital tasks.
- Gamified activities (e.g., Eduverse).
- Peer-led discussions and digital storytelling (if trainings are delivered in group settings).
- Interactive exercises analysing real headlines, articles, and visuals.
- Visual guides, glossaries, and printable handouts.
- Include “safe-to-fail” scenarios that let learners make mistakes in a controlled setting.
- Adapt content presentation for those with cognitive or sensory limitations (e.g., large fonts, colour contrast, simplified interface walkthroughs).

Incorporating these training methods ensures that learning is active, contextualized, and supportive, allowing participants to gain confidence while developing practical digital skills. By combining simulations, gamified activities, peer interactions, and carefully designed visual aids, the training creates a low-pressure environment where mistakes are treated as learning opportunities and learners can progress at their own pace. Adapting content to accommodate cognitive and sensory differences further enhances accessibility and inclusivity, while exercises based on real-world information reinforce critical thinking and problem-solving abilities. Together, these approaches foster not only competence but also autonomy, resilience, and a positive attitude toward digital engagement, laying the groundwork for sustained learning and empowerment in an increasingly digital world

3. Self-Tutoring strategies

Effective self-tutoring strategies are essential for empowering adults with limited digital skills to continue learning independently, reinforcing the skills and confidence developed through structured training methods. Building on the interactive workshops, gamified exercises, and peer-led activities previously described, self-tutoring provides learners with practical tools to consolidate knowledge, practice at their own pace, and address challenges in a safe, low-pressure environment. Strategies such as printed guides with annotated examples, step-by-step visual aids, and troubleshooting tips support learners in navigating common digital tasks while reducing anxiety and fear of making mistakes. Curated lists of trustworthy websites and fact-checking tools encourage safe exploration of online content, while short practice exercises allow learners to immediately apply new skills and reinforce learning outcomes. Additional supports, including audio narration, subtitles, and clear, consistent interface design, accommodate diverse learning needs and minimize cognitive overload. Integrating journaling, progress tracking, and motivational elements such as badges or checkmarks helps learners monitor achievements, maintain engagement, and foster a sense of accomplishment, while

recommendations for frequent breaks and cognitive load management ensure sustained and effective practice. Thus, to facilitate self-tutoring, the following guidelines are recommended:

- Provide easy-to-follow printed guides with annotated examples for all thematic areas where challenges have been identified.
- Distribute curated lists of safe, trustworthy websites and fact-checking tools.
- Encourage journaling or logging online tasks to reinforce repetition.
- Incorporate step-by-step visual aids, such as screenshots and icons, to guide learners through digital processes with minimal text.
- Create short practice exercises at the end of each section, allowing learners to immediately apply what they've learned in a safe, low-stress context.
- Include troubleshooting tips for common mistakes or issues, written in plain language, to build confidence and reduce fear of "breaking" something.
- Integrate audio narration and subtitles to support different learning styles and improve accessibility for users with reading difficulties.
- Provide progress tracking and simple achievements (e.g., badges or checkmarks) to motivate learners and give a sense of accomplishment.
- Ensure a clear, minimal interface with consistent navigation so users can focus on content without getting lost or overwhelmed.
- Suggest frequent breaks and cognitive load management strategies to prevent fatigue and support sustained engagement.

In conclusion, self-tutoring strategies serve as a vital complement to structured training by enabling learners to internalize, practice, and expand their digital skills independently. By providing accessible, practical, and motivating resources, these strategies enhance confidence, autonomy, and resilience, allowing learners to navigate online environments more safely and competently. Moreover, they promote a lifelong learning mindset, encouraging adults to continuously explore, evaluate, and interact with digital information without fear or dependency, ultimately supporting greater digital inclusion and empowerment.

4. Methodology for curriculum creation

Developing an effective curriculum for adult learners with limited digital skills requires methodology that is both evidence-based and responsive to the unique needs of the target population. The first essential step for any such endeavour involves conducting a thorough local needs assessment, such as the focus groups our Consortium conducted with potential learners, to identify specific challenges, gaps, and priorities in literacy, numeracy, and problem-solving within digital contexts. By grounding curriculum design in the real-life experiences and expressed difficulties of participants, developers can ensure that each module is relevant, practical, and tailored to the cognitive, emotional, and motivational requirements of learners. Understanding these needs also allows trainers to anticipate barriers, such as anxiety, lack of confidence, or reliance on others, and to build strategies within the curriculum that explicitly address these obstacles.

Once needs are clearly defined, each thematic area— i.e. literacy, numeracy, and problem-solving— can be matched to one or more specific training modules, carefully structured to align with the learners' starting competencies and desired outcomes. This way the curriculum adopts a flexible design, incorporating both group-based and individual learning pathways, to accommodate different learning styles, pacing, and preferences. Piloting modules in small groups is critical, as it allows developers to test the relevance, clarity, and accessibility of content, while gathering feedback directly from learners on what works and what needs refinement. Involving participants in co-designing or

evaluating early versions of the training enhances the sense of ownership and relevance, encouraging active engagement and fostering a stronger connection between the learners and the material.

In addition to the technical content, curriculum methodology should integrate scaffolding not only for knowledge acquisition but also for emotional and motivational development. Formative assessment tools, such as self-rating checklists and task-based progress logs, provide learners with structured opportunities to reflect on their growth, recognize achievements, and identify areas requiring further attention. Scaffolding ensures that learners progress gradually, building competence and confidence in parallel, while interventions such as positive reinforcement, peer support, and safe-to-fail exercises help maintain motivation and reduce anxiety. By embedding these elements systematically, the curriculum addresses the full spectrum of learner needs, balancing skill acquisition with emotional and cognitive support.

To operationalize these principles, the curriculum development process can be structured around a series of concrete steps that guide both content creation and delivery. These steps ensure that each module is grounded in the learners' actual needs, promotes active engagement, and incorporates iterative feedback to refine the learning experience. By following a clear methodology, trainers can align thematic areas with specific objectives, provide flexible learning pathways, and integrate assessment and motivational scaffolding in a way that maximizes both skill acquisition and learner confidence. The following list outlines the recommended approach for creating a curriculum that is both practical and responsive to the unique challenges faced by adult learners in digital environments:

- Follow the local needs assessment via the focus groups with target users.
- Match each thematic area (literacy, numeracy, problem-solving) to one or more specific training module(s).
- Pilot modules in small groups and refine based on feedback.
- Provide both group and individual learning pathways.
- Include formative assessment tools such as self-rating checklists and task-based progress logs.
- Involve participants in co-designing or evaluating early versions of training content to increase relevance and ownership.
- Build in scaffolding for emotional and motivational progress, not just technical skills acquisition.

In conclusion, a methodologically sound approach to curriculum creation ensures that training is highly relevant, adaptive, and learner-centered. By linking each module to local needs assessments, piloting and refining content based on real user feedback, and integrating both technical and emotional scaffolding, the curriculum can effectively support learners in acquiring critical digital skills while building confidence, autonomy, and resilience. This methodology not only strengthens the effectiveness of individual modules but also promotes sustained engagement and empowerment, laying the groundwork for lifelong learning and meaningful participation in digital environments.

Last but not least, a central element in designing and delivering digital skills training for adults is the human factor, which goes beyond technical content to address learners' emotions, motivations, and social interactions. These programs are most effective when trainers recognize the vulnerability, anxiety, or feelings of inadequacy that participants may bring, and actively create an environment of trust, empathy, and encouragement. Personalized attention, patience, and respectful communication help learners feel valued and safe, allowing them to engage more fully with challenging material. Equally important is fostering peer support and collaboration, where learners can share experiences, ask questions without fear of judgment, and learn from one another. By placing the human dimension at the core of training, programs not only build technical competence but also enhance confidence,

autonomy, and a sense of belonging, ensuring that learners remain motivated and empowered to continue their digital journey.

Thematic training areas based on challenges

Drawing upon the comprehensive quantitative and qualitative findings from focus groups and surveys we have identified a set of thematic training areas that address the most pressing gaps and obstacles in digital engagement, grounded in real-life challenges. By structuring training around these targeted sectors, programs can provide learners with practical, hands-on experience while simultaneously fostering confidence, autonomy, and critical thinking. This framework is designed to promote not only functional digital literacy but also emotional resilience and self-efficacy, ensuring that participants are equipped to interact safely, critically, and independently in an increasingly digital world.

The following sections present the specific training domains, illustrating how each area corresponds to identified needs and offers concrete opportunities for skill development and empowerment. These domains comprise a detailed framework for several targeted training sectors that can be designed to improve their ability to handle misinformation, navigate digital environments, and build functional digital literacy with confidence.

Structured training guidelines for adults facing digital and misinformation challenges

1. Critical digital reading and evaluation skills

Navigating online content safely requires not only technical ability but also critical reading and analytical skills to evaluate the reliability of sources, interpret numerical and visual data, and identify manipulative tactics. This training area focuses on equipping participants with practical strategies to read, analyse, and verify digital content with confidence, fostering informed decision-making and resilience against misinformation.

Objective: The primary objective of this module is to empower participants to critically assess online content and distinguish credible information from misleading, manipulative, or deceptive material. Beyond simply recognizing false information, learners will develop an understanding of different types of misinformation, disinformation, and malinformation, gain the ability to interpret and evaluate data and graphs presented in digital media, and cultivate confidence in verifying sources and making independent judgments about the reliability of information encountered online.

Identified needs: As concluded from the FGs in all Consortium's countries, horizontal needs for all beneficiaries are

- Difficulty distinguishing real from fake content.
- Limited understanding of mis-, dis-, and mal-information.
- Low confidence in verifying sources.
- Challenges interpreting graphs and data in news/media.

Based on the identified needs, this module equips participants with practical strategies to critically read, evaluate, and verify digital content, enabling them to identify reliable information and resist misinformation with confidence.

Learning Goals

a. Raise awareness of the types and prevalence of misinformation, disinformation, and malinformation online.
b. Develop skills to assess the credibility of websites, news articles, and social media posts.
c. Build the ability to interpret graphs, statistics, and visual data accurately.
d. Foster confidence in verifying information using multiple trustworthy sources.
e. Encourage reflective reading habits that move beyond surface-level engagement with digital content.

Learning Outcomes

a. Identify and classify misleading, manipulative, or false online information.
b. Evaluate digital sources for credibility by examining authorship, publication context, and supporting evidence.
c. Apply parallel reading techniques in multiple sources
d. Apply fact-checking techniques using reliable online tools and cross-referencing strategies.
e. Demonstrate increased confidence and autonomy in navigating and assessing online information.

Recommended training activities

The following activities are designed to provide practical, hands-on opportunities for learners to develop critical digital reading, evaluation, and data literacy skills in a supportive and engaging environment:

- **Hands-on workshops** using anonymized real-life examples (e.g., fake news headlines, misleading Facebook posts).
- **Parallel reading:** learn how to cross check against other sources online.
- **Reliable sources practice** establish criteria to recognize and search for reliable content**.**
- **Frameworks for evaluation** (e.g., SIFT method: Stop, Investigate the source, Find better coverage, Trace claims).
- **Fact-checking tools practice** (e.g., Google reverse image search, Media Bias/Fact Check).
- **Bias and manipulation identification**: Teach persuasion tactics (emotive language, loaded terms, false authority).
- **Data literacy basics**: How to read bar charts, line graphs, percentages, and statistics.

Delivery style

- Facilitator-led group analysis and guided discovery.
- Self-paced online training modules
- “Pause and think” reflective exercises to reduce cognitive overload.

Indicative activities tested in the FGs

During the focus groups conducted to inform the curriculum, participants engaged in practical activities that mirrored the recommended training approaches. For example, (a) they were presented with anonymized news articles and social media posts and asked to identify potential misinformation, discuss their reasoning, and compare judgments with peers. (b) In parallel reading exercises, participants practiced cross-checking claims using multiple online sources, while guided sessions helped them establish criteria for recognizing reliable content, such as evaluating authorship,

publication date, and website credibility. (c) Using simplified frameworks like the SIFT method, learners worked step by step to investigate sources, find better coverage, and trace claims. (d) Fact-checking exercises included hands-on practice with tools like Google reverse image search to verify images and statements. (e) Participants also analyzed examples of emotive language, persuasive phrasing, or false authority to understand manipulation techniques, especially in news headlines. Finally, (f) basic data literacy exercises guided them through reading bar charts, line graphs, percentages, and other statistics, fostering confidence in interpreting information visually.

All activities were delivered through facilitator-led discussions, self-paced modules, and reflective "pause and think" exercises, allowing learners to process the material at a manageable pace and apply critical skills in a supportive environment.

2. Functional digital numeracy and financial interface training

Based on the analysis of the data collected and insights from focus groups this training area focuses on enhancing digital numeracy and practical skills for managing personal finances online.

Objective: the aim is to build participants' confidence and competence in using digital tools for everyday financial tasks, such as online banking, bill payments, and interpreting data in practical contexts. The training aims to reduce anxiety around financial technology, foster independent interaction with digital platforms, and equip learners with strategies to identify errors or fraudulent activity in digital transactions. By combining step-by-step simulations, data literacy exercises, and safe practice environments, learners gradually gain both technical skills and confidence to engage autonomously with financial digital interfaces.

Learning Goals:

a. Increase familiarity with common online banking and financial platforms.
b. Develop the ability to interpret digital graphs, charts, and numerical data related to personal finance.
c. Recognize and prevent potential financial fraud, including phishing attempts.
d. Promote self-efficacy and reduce anxiety when performing digital financial tasks.

Learning Outcomes:

a. Participants can complete routine online financial transactions, such as paying bills or checking account balances, with minimal support.
b. Participants can accurately read and interpret digital charts, graphs, and summaries of personal financial data.
c. Participants can identify suspicious links, fraudulent messages, or unusual account activity.
d. Participants can conclude transactions (e.g. shopping) on online digital platforms.

Identified needs: As concluded from the FGs in all Consortium's countries, the recurring needs for all beneficiaries are

- High anxiety around online banking
- Difficulty interpreting digital graphs (e.g., bills, loans).
- Low engagement in transactional platforms.

Recommended training activities

- **Familiarization with interfaces** for banking, bill payments, and budgeting apps.
- **Step-by-step simulations** of tasks: paying a utility bill, checking an account balance, spotting fraudulent charges.
- **Data visualization tutorials** using familiar examples (e.g., water usage, mobile bills).
- **Fraud prevention**: Training on phishing patterns in financial contexts.

Delivery style:

Training was delivered using a combination of small-group sessions with repeatable practice, self-paced online modules for independent reinforcement, and visual, printable guides in participants' national languages. Screenshots and annotated instructions supported comprehension, while hands-on repetition allowed learners to gain mastery and confidence in a low-pressure environment. Thus, the guidelines for delivery are:

- Small-group sessions with repeatable practice.
- Self-paced online training
- Visual, printable guides in national language with screenshots.

Sample Focus Group Activities & Participant Comments:
During focus groups conducted to develop this curriculum, participants engaged in practical, hands-on exercises reflecting real-life financial scenarios. For example:

(a) Familiarization with banking interfaces allowed participants to simulate paying utility bills, checking balances, or spotting fraudulent charges. One participant commented, *"I never realized how easy it is to make mistakes online—I feel safer practicing it here first."* Another participant noted, *"Seeing the steps broken down made me feel I could do this at home without panicking."*

(b) Step-by-step simulations guided learners through using budgeting apps and reading digital statements, reinforcing sequential thinking.

(c) Tutorials on data visualization used familiar examples, such as water or mobile phone bills, to teach participants how to interpret line graphs, bar charts, and percentages. *"I usually skip the graphs—they look confusing—but now I can actually understand what they mean,"* said one attendee.

(d) Fraud prevention exercises included identifying phishing attempts and understanding common scams, fostering critical awareness of online threats.

3. Digital navigation and problem-solving workshops

This training area focuses on enhancing participants' confidence and independence when navigating digital environments and resolving minor technical problems.

Objective: Based on findings from focus groups and questionnaires, the objective is to equip learners with practical strategies for interacting with complex digital interfaces, such as e-government portals, online forms, and subscription services, while reducing anxiety and cognitive overload. The training emphasizes hands-on practice, guided discovery, and problem-solving strategies that allow participants to gradually build autonomy. By incorporating real-life scenarios and "safe-to-fail" exercises, learners

can experiment with solutions, develop troubleshooting skills, and increase confidence in managing everyday digital tasks independently.

Learning Goals:

a. Increase familiarity with commonly used public and private digital platforms.
b. Develop practical problem-solving skills to handle minor technical or navigational challenges.
c. Introduce cognitive strategies to manage information overload and maintain focus.
d. Promote self-efficacy and reduce dependence on family members or support staff for routine digital tasks.

Learning Outcomes:

a. Participants can successfully complete common online tasks, such as filling out forms, retrieving information, or unsubscribing from services.
b. Participants can approach new digital challenges systematically, applying problem-solving techniques and critical thinking.
c. Participants report increased confidence and reduced stress when interacting with digital systems independently.

Identified needs: As concluded from the FGs in all Consortium's countries, the main needs for all beneficiaries are

- Trouble with complex interfaces (e.g., e-government portals, forms).
- Difficulty unsubscribing/blocking.
- Information overload impeding focus.

Recommended training activities:

To address the challenges identified, the workshops included a variety of interactive and practical exercises designed to mirror real-life digital situations. Activities emphasized hands-on practice, guided exploration, and problem-solving in a low-pressure environment, allowing participants to experiment, make mistakes safely, and gradually build confidence. By combining structured tasks with reflective discussion, learners can internalize strategies for navigating complex interfaces, managing information overload, and independently resolving common digital issues.

- **Guided exploration** of frequently used public sites (e.g., health, transport, municipal services).
- **Practice tasks**: complete a mock online form, retrieve information, unsubscribe from a mailing list.
- **Cognitive strategies**: how to simplify browsing using bookmarks, tab grouping, note-taking extensions.
- **Problem-solving games** or scenarios ("What would you do if…").

Delivery style:

Training was delivered through peer-supported learning in small-group settings and via step-by-step walkthroughs projected onscreen or in simulators for online settings. Participants benefited from guided discovery, where facilitators modelled tasks first, followed by independent attempts. Repetition, feedback, and discussion promoted comprehension and confidence, while low-pressure, safe-to-fail exercises allowed learners to experiment without fear of errors. Thus, the guidelines are:

- Peer or example learning (in physical / online settings, respectively).
- Onscreen navigation using simulators or projected step-by-step walkthroughs.

Sample Focus Group Activities & Participant Comments: During focus groups, participants engaged in structured hands-on activities to simulate real-life digital challenges; indicatively, the following exercises were implemented:

(a) Guided exploration of public service websites (e.g., health portals, municipal services, transportation sites) allowed learners to become familiar with layout, navigation, and search functions.

(b) Practice tasks included retrieving information and unsubscribing from mailing lists, reinforcing step-by-step problem-solving. A participant commented, *"I never thought unsubscribing could be so confusing—I feel more capable now."* Another one mentioned, *"Seeing someone guide me first made it less intimidating—I feel like I could do it on my own now."*

(c) Cognitive strategy exercises taught participants how to simplify browsing, such as using bookmarks, which helped manage information overload. A participant noted, *"I usually get lost when too many tabs are open—now I have a method to keep it under control."*

(d) Problem-solving games and "What would you do if…" scenarios encouraged learners to brainstorm solutions to realistic digital challenges, fostering critical thinking in a low-pressure environment.

4. Misinformation and scam recognition

This section focused on equipping participants with the skills to identify and respond effectively to common forms of online deception, including phishing emails, fraudulent SMS, and misleading websites.

Objective: The goal is to reduce anxiety and fear associated with potential scams, increase awareness of personal rights such as GDPR, and provide practical tools for safe digital interaction, so as to help participants identify and respond to common forms of online deception, including SMS scams, phishing attempts, and misinformation. By engaging in interactive exercises, participants develop confidence in spotting threats, taking appropriate action, and understanding the channels available for recourse, fostering both digital safety and autonomy.

Learning Goals:
a. Enhance the ability to identify potential scams, phishing attempts, and other deceptive content online.
b. Increase understanding of privacy rights, including GDPR, and appropriate ways to exercise them.
c. Develop practical response strategies for suspicious digital interactions.
d. Build confidence in independent decision-making in online safety contexts.

Learning Outcomes:
a. Participants can recognize phishing emails, fraudulent messages, and suspicious websites.
b. Participants demonstrate knowledge of steps to block, report, or mitigate online threats.
c. Participants understand and can apply their data privacy rights.

Identified needs: As concluded from the FGs in all Consortium's countries, the basic needs for all beneficiaries are

- Difficulty recognizing scams (especially SMS).
- Fear of being manipulated or tricked.
- Unawareness of rights and recourse options (e.g., GDPR).

Training activities:

To address the identified needs, this module used interactive, experiential exercises that allow learners to practice identifying and responding to scams in a controlled, low-stress environment. The focus is on hands-on engagement, visual recognition, and scenario-based learning to solidify understanding and build confidence.

- **Visual libraries of common scams**: phishing emails, suspicious SMS, fake websites.
- **Interactive red flag spotting**: What looks suspicious? What are the warning signs?
- **How-to demonstrations**: blocking/reporting senders, adjusting privacy settings.
- **Understanding GDPR rights**: Right to erasure, data control, and complaint channels.

Delivery style:

The training combines role-play scenarios and real-case walkthroughs to foster experiential learning, while self-paced online modules provide opportunities for reinforcement at the learner's own rhythm. Printed "cheat sheets" and response checklists are also provided to serve as quick-reference tools, supporting learners in applying skills confidently and independently:

- Role-play and real-case walkthroughs.
- Self-paced online training
- Access to printed "cheat sheets" and response checklists.

Sample Focus Group Activities & Participant Comments:
Participants engaged with visual libraries presenting real examples of phishing emails, suspicious SMS, and fake websites, which helped them recognize patterns of deception. In interactive exercises, learners analysed messages to spot red flags and suspicious elements, gradually building confidence in identifying warning signs. Step-by-step demonstrations guided participants on how to block or report senders and adjust privacy settings, allowing them to immediately practice and apply these procedures on their own devices. Finally, learners explored their rights under GDPR, including data control and the right to erasure, reinforcing both knowledge and empowerment in handling personal information online.

5. Confidence-building and digital self-efficacy training

Fear, anxiety, and feelings of incompetence are among the strongest emotional barriers preventing adults from engaging confidently with digital tools. Many participants report that, despite independence in offline life, they feel helpless online, avoid digital tasks, and fear making irreversible mistakes.

Objective: The aim of this training area was to help participants overcome these emotional barriers such as fear, anxiety, and low self-worth associated with digital engagement, build self-efficacy, and develop a positive relationship with technology by celebrating successes, normalizing errors, and encouraging peer support. By integrating reflective, safe, and socially supported exercises, learners can gradually transform anxiety into competence and curiosity.

Learning Goals:

a. Foster a growth mindset and reduce fear associated with digital engagement.
b. Encourage the recognition and celebration of small digital successes.
c. Promote peer support and mentorship to enhance motivation and reassurance.
d. Develop strategies to recover from mistakes and approach challenges with confidence.

Learning Outcomes:

a. Participants report increased confidence and reduced anxiety in digital interactions.
b. Learners demonstrate practical problem-solving skills in a supportive environment.
c. Participants can identify personal achievements and track progress over time.
d. Learners actively seek help when faced with digital challenges.

Identified needs: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Perceived incompetence online despite offline independence.
- Fear of making irreversible mistakes.
- Avoidance of digital tools due to prior bad experiences.

Training activities:

Training activities were designed to provide experiential, psychologically safe opportunities for learners to practice, reflect, and gain confidence in using digital tools. Activities encourage active participation, peer engagement, and structured risk-taking in a controlled environment.

- **Digital journaling exercises**: track small successes.
- **Safe-to-fail challenges**: deliberately "make mistakes" and learn how to recover.
- **Testimonials from peers**: older learners sharing growth stories.
- **Mentorship pairs**: peer encouragement with a support person.

Delivery style:

Sessions are conducted in warm, human-facilitated environments that prioritize emotional safety and encouragement. Milestones are celebrated in groups to reinforce positive experiences and create motivation. Facilitators explicitly foster a "no stupid questions" culture, reducing shame and promoting curiosity. Thus, the guidelines are summariazed as follows:

- Warm, human-facilitated environments.
- Group celebration of milestones, positive reinforcement.
- "No stupid questions" guarantee to reduce shame and encourage curiosity.
- Online training

Sample Focus Group Activities & Participant Comments:

Participants recorded small digital accomplishments reinforcing success and building self-efficacy. *Participant comment:* "Seeing my progress in writing makes me feel proud and more willing to try new things." Learners deliberately make minor mistakes in simulated digital tasks to learn recovery strategies and share personal stories of overcoming digital challenges, as testimonials from peers. Also, they paired with a supportive peer who provided encouragement and guidance during tasks. *Participant comment:* "*Hearing someone my age succeed makes me believe I can do it too*."

6. Multilingual and accessible digital literacy support

Language barriers and the lack of culturally relevant digital tools can significantly hinder engagement for older adults and those with low digital literacy. Many participants feel frustrated or excluded when services are only available in English or lack clear instructions in their national language. The

Objective: The aim of this training area is to ensure that participants can access and use digital tools and services in a linguistically and culturally appropriate manner. By providing clear guidance, translation aids, and advocacy strategies, learners can navigate digital environments with autonomy and reduced stress, improving both confidence and competence.

Learning Goals:

a. Enable learners to understand and use digital interfaces in their native language.
b. Equip participants with strategies to overcome language barriers in online services.
c. Encourage self-advocacy and proactive engagement with multilingual digital resources.
d. Foster awareness of accessibility options and culturally relevant content.

Learning Outcomes:

a. Participants can navigate digital platforms in their preferred language.
b. Learners can use translation tools effectively to understand English content.
c. Participants demonstrate the ability to request multilingual support when needed.

Identified needs: As identified from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Difficulty with English interfaces.
- Frustration when digital services lack national language options.

Training activities:

The following activities provide hands-on, practical approaches to overcoming language and cultural barriers, combining individual practice, group discussion, and supportive guidance.

- **Glossary creation** of common English digital terms with national language equivalents.
- **Settings tutorials**: changing language in browsers, apps, and systems.
- **Service advocacy**: how to request multilingual support.
- **Translation tools practice**: using Google Translate and browser extensions.

Delivery style:

Training was delivered with materials in the national language, using simple layouts and clear visuals. Multilingual facilitators or translated captions were provided when possible, ensuring comprehension and inclusion. Sessions incorporated flexible pacing with multiple speed levels or tiered courses, blending in-person and online formats. Tranlation tools were tested and understood.

- Materials in national language with simple layout and visuals.
- Multilingual facilitators or translated screen captions where possible.

Cross-cutting features

- **Flexible pacing**: Multiple speed levels in one session or tiered course design.
- **Blended formats**: In-person where possible, with optional printed or video online follow-up.
- **Accessibility checks**: All materials formatted with readability, visual clarity, and physical usability in mind.

Sample Focus Group Activities & Participant Comments:

Glossary creation of common English digital terms: Participants match English terms with national language equivalents to improve comprehension. Translation tools practice**:** Using Google Translate or browser extensions, learners convert unfamiliar content into their native language. *Highlight in behaviour:* Many participants shared translated content with peers, demonstrating collaboration and initiative.

7. Digital financial literacy & safe online shopping

Many adults with low digital literacy experience anxiety and dependence when navigating online financial transactions or shopping platforms. These fears often stem from limited prior experience, uncertainty about secure practices, and difficulty distinguishing trustworthy platforms from scams.

Objective: The objective of this training area is to build participants' confidence and skills in managing money digitally and making safe, informed purchases online. By combining hands-on practice, clear guidance on secure transactions, and recognition of fraudulent activity, learners can develop independence and digital self-efficacy in financial contexts. This training seeks not only to teach technical skills but also to reduce anxiety, foster trust in digital systems, and empower participants to make decisions with autonomy.

Learning Goals:
a. Enable learners to understand and navigate common online shopping and banking platforms.
b. Develop participants' ability to recognize safe and fraudulent e-commerce websites.
c. Build practical skills in secure online payment methods and budget management tools.
d. Reduce dependence on others for online financial tasks and foster self-confidence.

Learning Outcomes:
a. Participants can complete mock online purchases safely.
b. Learners identify secure payment options and verify website authenticity.
c. Learners report increased confidence and independence in managing digital financial tasks.

Identified needs: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Limited experience with online transactions; this was a recursive topic in all countries with small variations in percentages (60-80% no use for online shopping, 50-80% for banking).
- Anxiety around entering personal/financial information.
- Difficulty recognizing trusted platforms or spotting fake sales and fraudulent sites.
- Feeling of dependence and illiteracy (as they ask others to help them with online tasks)

Training activities:

The following activities provide experiential, practice-oriented opportunities for participants to engage with digital financial systems safely, incorporating both guided instruction and hands-on application

- **Intro to common platforms**: step-by-step tutorials on e-shops, online pharmacies, supermarket delivery sites.
- **Safe purchasing flow**: browsing → cart → checkout → confirmation → return.
- **Secure payments explained**: use of credit cards vs. debit cards vs. PayPal; how to verify secure websites (HTTPS, padlock icon).

- **Fake vs. real**: training on how to recognize scam e-shops, misleading ads, and too-good-to-be-true offers.
- **Budgeting apps & financial tools**: overview and practice with apps for household planning, price comparison, and spending alerts.

Delivery style:

Training is largely practice-based, with simulated purchases that involve no real money to ensure a safe learning environment. Participants are supported with printable checklists highlighting essential verification steps before completing online transactions. Simple visual guides illustrate receipts, order tracking, and returns, providing concrete references. Sessions combine hands-on exercises with facilitator guidance, fostering confidence through repetition, peer discussion, and structured problem-solving, following these simple guidelines:

- Practice-based exercises (e.g., "buy" a sample product with no real money involved).
- Printable checklists for what to verify before purchase.
- Simple visual guides to receipts, tracking, and returns.

Sample Focus Group Activities & Participant Comments:

Familiarization with e-shops, online pharmacies, and supermarket delivery sites. Learners practiced browsing, adding items to a cart, checking out, confirming, and processing returns using simulated interfaces. *Researcher observation:* Participants initially hesitated at the checkout step, but repeated guided exercises increased their confidence. Secure payments explained: Explanation of credit cards, debit cards, and PayPal usage, and how to verify HTTPS, padlock icons, and other safety indicators.

Participant comment: "I didn't know I could order groceries online—seeing each step broken down helped me feel I could do it myself."

8. Navigating e-government services and administrative portals

Interacting with public services online can be particularly challenging for adults with low digital literacy, due to complex interfaces, unfamiliar terminology, and bureaucratic processes. Many participants report frustration and dependence on others when attempting tasks such as submitting official documents, checking entitlements, or managing personal records digitally.

Objective: The objective of this training area is to help participants independently access and interact with essential e-government services. By guiding learners through step-by-step processes, clarifying terminology, and providing hands-on practice, this training reduces anxiety, builds digital confidence, and fosters autonomy in navigating administrative portals. Beyond technical competence, it emphasizes understanding rights, interpreting instructions, and developing problem-solving strategies in bureaucratic contexts.

Learning Goals:

a. Enable learners to confidently access and navigate key e-government portals.
b. Develop practical skills for completing official tasks such as submitting documents and checking personal records.
c. Teach participants to understand and use digital signatures and official digital documentation.
d. Reduce dependence on family members or support personnel for online administrative tasks.

Learning Outcomes:

a. Participants successfully complete simulated e-government tasks.
b. Learners demonstrate the ability to download, rename, and upload digital documents correctly.
c. Participants understand the purpose and use of digital signatures in official processes.
d. Learners report increased confidence and independence in interacting with online public services

Identified needs: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Difficulty using complex interfaces (forms, transport/tax portals).
- Low confidence submitting official documents digitally.
- Language and jargon barriers in bureaucratic systems.

Training activities:

These activities provide structured, experiential practice in accessing and using e-government services, combining live demonstration, simulations, and supportive resources:

- **Walkthroughs of national portals** (national systems for health, personal certifications, etc).
- **Simulation tasks**: renewing an ID, printing a health insurance certificate, checking pension status, uploading declarations, etc.
- **Explaining digital signatures**: what they are, how to obtain and use them.
- **Help finding information**: using search tools and support links effectively.
- **File handling basics**: download, rename, upload documents (e.g., PDFs, scanned files).

Delivery style:

"Mini case" scenarios were used to simulate authentic administrative situations, reinforcing problem-solving and contextual understanding. Participants were supported with glossaries of bureaucratic terms in their national language, and self-paced online modules allow learners to review material at their own speed. This blended approach ensures practical skill development while accommodating different learning paces and reducing frustration.

- Live demonstration + participant mirroring on their devices.
- "Mini cases" or scenarios to follow (e.g., "You need to apply for a proof of residence").
- Glossary of bureaucratic terms with National language explanations.
- Adjusted trainings for self-paced online enrolment.

Sample Focus Group Activities & Participant Comments:

Walkthroughs of national portals: Guided exploration of health and administrative systems. *Participant comment:* "I never knew where to start—having someone show me made it much clearer." Explaining digital signatures**.** Help finding information**:** Training on using search functions, support links, and FAQ pages effectively. *Highlight in behaviour:* Participants began independently identifying the correct sections in portals without facilitator prompts.

File handling basics**:** Instructions on downloading, renaming, and uploading files such as PDFs or scanned documents. *Participant comment:* "I was always scared of losing documents—but now I know the steps and feel safer handling files."

9. Managing time pressure and information overload online

The rapid pace and sheer volume of online information can be overwhelming, particularly for learners with limited digital experience. Many adults struggle to filter, prioritize, and process digital content efficiently, which can lead to anxiety, mistakes, or avoidance of online tasks altogether.

Objective: The aim of this training area is to equip learners with cognitive strategies and practical tools to manage online information overload effectively and help them develop cognitive strategies for handling the fast pace, volume, and complexity of online information, without becoming overwhelmed. By focusing on techniques for scanning content, managing tasks and tabs, and controlling screen time, participants can develop sustainable habits for staying focused, making informed decisions, and reducing stress. These strategies emphasize not only efficiency but also emotional regulation and reflective thinking, enabling learners to approach digital tasks with confidence rather than fatigue.

Learning Goals:
a. Help participants identify, filter, and prioritize essential online information.
b. Teach strategies for managing multiple tasks and digital tabs without losing focus.
c. Encourage mindful online practices to reduce cognitive overload.
d. Foster time-management and reflection skills to support deliberate, informed decision-making.

Learning Outcomes:
a. Participants can efficiently locate key information on web pages within a limited timeframe.
b. Participants report reduced anxiety and improved confidence when navigating dense or multitasking interfaces.
c. Learners incorporate reflection and “digital break” practices into their online routines.

Identified Needs: the FGs showed that the most important needs for all beneficiaries are

- Difficulty filtering and prioritizing digital content.
- Cognitive overload due to multitasking interfaces and dense information.
- Not enough time to verify or process information before acting.

Training activities:

- **"Slow Down and Scan"** techniques: chunking content, identifying key areas first (e.g., headlines, source, date).
- **Tab and task management**: Using browser bookmarks, tabs, extensions to stay focused and avoid distraction.
- **Time-saving shortcuts**: Using search within pages (Ctrl+F), skim-reading strategies, and summarizing tools.
- **Information prioritization drills**: What to read now, what to ignore, what to fact-check later.
- **“Digital break” practices**: Encouraging controlled screen time and reflection before action.

Delivery style:

These activities give participants hands-on practice and reflective opportunities to manage online information effectively:

- Interactive, timed exercises: “Can you find the essential info on this page in 1 minute?”
- Reflection-based consultation on attention management.
- Templates for online notetaking, bookmarking, or article saving methods.

Sample Focus Group activities & participant comments:

Learning "Slow Down and Scan" techniques by practicing chunking content and identifying key areas such as headlines, source, and date first. Time-saving shortcuts**:** Shortcuts like Ctrl+F, skim-reading. "Digital break" practices: Scheduled pauses and reflection before acting on online information. *Observation:* Participants visibly relaxed during practice breaks and reported feeling less overwhelmed after sessions.

10. Understanding GDPR, Privacy Settings & Data Control

In today's digital environment, personal data is constantly collected, stored, and shared. Many adults, particularly those with limited digital experience, feel anxious and uncertain about how their information is used and how to exercise control.

Objective: This training area aims to empower participants to understand their rights under GDPR, manage privacy settings effectively, and make informed decisions about consent. The training emphasizes practical application, helping learners recognize unnecessary data requests, adjust settings across platforms, and confidently exercise rights such as data access, deletion, and complaint filing. By linking legal concepts to everyday digital actions, learners gain both understanding and control, reducing anxiety and promoting safe, responsible online behaviour.

Learning Goals:
a. Increase participants' understanding of GDPR principles and their personal digital rights.
b. Teach practical skills to manage privacy settings on websites, apps, and devices.
c. Enable learners to recognize excessive data requests and make informed consent decisions.
d. Build confidence in exercising rights such as data deletion, access requests, and complaints.

Learning Outcomes:
a. Participants can explain GDPR in simple terms and identify their rights online.
b. Learners demonstrate how to adjust privacy and consent settings across multiple platforms.
c. Participants can detect overreach by apps or websites and respond appropriately.

Identified Needs: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Confusion about how personal data is collected and used.
- Anxiety around "cookies," terms & conditions, and tracking.
- Lack of awareness of GDPR rights (e.g., right to be forgotten, data access).

Training activities:

The following exercises provide practical experience and reflective learning in managing data and privacy:

- **Intro to GDPR**: What it means for you, explained in everyday language.
- **Practical rights**: How to request data deletion, download personal data, or file a complaint.
- **Cookie consent**: What to accept, what to reject—demo with real sites.
- **Privacy setting walkthroughs**: On browsers, phones, email services, social media.
- **Identifying overreach**: Recognizing when an app or site asks for more access than it needs.

Delivery Style:

This training uses live demonstrations on real websites to practice consent management, privacy dashboards, and data control. Rights-focused scenarios allow learners to explore practical applications, such as requesting data deletion. Materials include a user-friendly guide, *"Your Data, Your Rights"*, in the local language to reinforce learning, with a focus on hands-on practice, reflection, and peer discussion to build confidence and competence in exercising digital rights.

- Use of real websites for consent screens, privacy dashboards.
- Rights-focused scenarios: "You want your data removed—what are your options?"
- Distribute a user-friendly guide: "Your Data, Your Rights" in local language

Sample Focus Group activities & participant comments:

Intro to GDPR**:** Explaining legal rights and protections in everyday language. Cookie consent demonstrations**:** Learners interact with real sites, deciding what to accept or reject. *Participant comment:* "I've always clicked 'accept all'—now I know I have a choice." Privacy setting walkthroughs**:** Participants adjust settings on browsers, phones, email services, and social media. *Highlight in behaviour:* Many participants shared discovered tips with peers, showing engagement and peer-to-peer learning. Identifying overreach**:** Recognizing when apps or websites ask for unnecessary permissions. *Researcher observation:* Participants were surprised by the number of unnecessary permissions and discussed strategies to limit them.

11. Headline literacy training – aware of sensationalism & emotional language

Headlines often serve as the first, and sometimes only, interaction readers have with news articles. Emotional language, alarmist phrasing, and vague statements can manipulate perception, provoke strong reactions, and encourage impulsive sharing.

Objective: This training aims to help participants recognize and resist emotional manipulation in headlines and lead paragraphs, fostering habits of critical reading beyond the surface. By developing skills to analyse tone, identify bias, and question the intent behind language, learners gain awareness of clickbait, sensationalism, and subtle psychological triggers, ultimately improving their ability to consume news responsibly.

Learning Goals:
a. Increase ability to identify emotional, sensational, or manipulative language in headlines.
b. Teach techniques for rewriting or rephrasing headlines neutrally.
c. Develop reflective reading habits, encouraging learners to pause and analyse content critically.
d. Enhance understanding of the psychological impact of emotionally loaded words.

Learning Outcomes:
a. Participants can distinguish between sensational and neutral headlines.
c. Participants practice "stop and reflect" strategies when reading news or social media content.
d. Learners articulate how tone and word choice influence perception and emotional response.

Identified needs: the FGs showed that the most important needs for all beneficiaries are

- Widespread vulnerability to emotional, vague, or alarmist headlines.
- Participants admitted reading only the headline or first line, increasing clickbait vulnerability.
- Difficulty discerning sensational tone from neutral reporting.

Training activities:

The exercises below were tested with focus groups to combine practical skill-building with reflection:

- **Compare & contrast headlines**: Practice spotting manipulative vs. neutral language.
- **Rewriting exercise**: Rewrite a sensational headline in a neutral tone.
- **Tone analysis drills**: Identify emotion-laden words and discuss their psychological impact.
- **Stop & reflect practice**: Encourage participants to pause and ask, "What is this headline trying to make me feel?"

Delivery style:

Workshops are conducted in small groups using real examples from news outlets and social media platforms. Print-outs of "before and after" articles illustrate how tone shapes perception, allowing learners to physically manipulate content while discussing emotional cues and manipulative strategies. Facilitators encourage reflection, peer discussion, and collaborative analysis to strengthen critical reading habits and reinforce understanding of emotional influence in headlines.

- Group workshops using real examples from news and social media.
- Print-outs of "before and after" articles to see how tone shapes perception.

Sample Focus Groups activities & participant comments:

Compare & contrast headlines**:** Participants analysed multiple headlines, spotting manipulative versus neutral language. *Participant comment:* "I never realized how many headlines try to provoke fear or anger right away." Tone analysis**:** Identifying emotion-laden words and discussing their psychological impact. Stop & reflect practice**:** Encouraging participants to pause and ask, "What is this headline trying to make me feel?" *Researcher observation:* Participants initially rushed through headlines but gradually began discussing emotional triggers aloud, showing growing awareness.

12. Algorithm awareness & echo chamber exploration

Algorithms on social media and news platforms automatically prioritize and personalize content, often reinforcing what users already believe. Many participants are unaware of how these systems work or why they see certain ads or stories repeatedly.

Objective: This training aims to raise awareness of algorithmic personalization and its effects on information exposure, helping learners understand confirmation bias and the risks of echo chambers, and show specifically how social media and news algorithms shape information exposure and contribute to confirmation bias.

simple terms how algorithms influence content visibility.
b. Demonstrate how echo chambers and filter bubbles form online.
c. Enable participants to use search variation to access diverse viewpoints.
d. Teach practical steps to reduce algorithmic personalization in their digital experience.

Learning Outcomes:
a. Participants can describe the role of algorithms in shaping the content they see.
b. Learners recognize when they are in a filter bubble or echo chamber.
c. Participants can use alternative search terms or settings to obtain a broader range of information.

Identified needs: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Nominal understanding of algorithmic personalization.
- Concern about being shown only content that reinforces existing beliefs.
- Confusion about why certain ads or news appear "suspiciously targeted."

Training activities:

To encourage hands-on understanding, focus groups engaged in the following exercises:

- **Algorithm explained simply**: How Facebook, YouTube, and Google prioritize content.
- **Echo chamber mapping**: Simulate how filter bubbles work and why they're dangerous.
- **Practice search variation**: Show how using different words produces different news results.
- **Unpersonalizing platforms**: Guide on how to reset or limit personalization in settings.

Delivery Style:

Training is highly visual and interactive, using analogies like "tunnel vision online" to make abstract concepts tangible. Demonstrations are performed on anonymized or incognito browsers, with optional sessions allowing participants to explore their own feeds in a guided, safe environment. Facilitators emphasize reflection and discussion, helping learners connect algorithmic behavior to real-world experiences of bias and selective exposure.

- Visual analogies (e.g., "tunnel vision online").
- Interactive demos using anonymized or incognito browsers.
- Optional: bring your own device sessions to explore participants' own feed history.

Sample Focus Groups activities & participant comments:

Algorithm explained simply**:** Facilitators use analogies and visuals to show how platforms prioritize content. Echo chamber explained**:** how limited exposure reinforces existing beliefs. *Researcher observation:* Participants were surprised by how quickly repeated patterns emerged in their feeds, often laughing at the predictability. Search variations**:** Learners experiment with different keywords to produce diverse news results.

13. Emotional resilience & impulse control in digital spaces

Online interactions can trigger strong emotional responses, leading to impulsive sharing, stress, and cognitive fatigue. Older adults often find themselves reacting quickly to emotionally charged posts or feeling mentally exhausted after extended digital engagement.

Objective: This training focuses on developing emotional regulation, cognitive strategies, and mindful practices to help learners pause, evaluate, and respond intentionally. Thus, participants can engage online safely, reduce anxiety, maintain control over their digital behaviours and learn cognitive strategies and emotional regulation to resist reactionary sharing, stress, and cognitive fatigue.

Learning Goals:
a. Teach participants to pause and reflect before reacting to content.
b. Develop awareness of emotional triggers and their impact on digital behaviour.
c. Introduce techniques for managing cognitive load and maintaining focus online.
d. Provide strategies for safely disengaging from upsetting or overwhelming content.

Learning Outcomes:
a. Participants consistently use pause-and-reflect techniques before reacting or sharing.

b. Learners can identify and label emotions elicited by online content.
c. Learners can remove themselves safely from distressing online interactions or report problematic content.

Identified deeds: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Impulse sharing due to fear or anger triggered by emotional content.
- Feelings of mental exhaustion from online interaction.
- Acknowledged need for strategies to reduce anxiety and regain control.

Training activities:

Participants in training sessions engage in hands-on exercises designed to build resilience and impulse control:

- **Digital pause technique**: Teach users to stop before sharing or reacting ("Pause–Think–Check").
- **Emotional labelling exercise**: "How does this post make me feel, and why?"
- **Cognitive load management**: Tips on chunking tasks, limiting screen time, using focus tools.
- **Safe outlet identification**: How to report upsetting content or remove yourself from toxic platforms.

Delivery style:

Workshops are delivered in small group or individual reflection settings, incorporating basic mindfulness and grounding exercises at the start to foster focus. Handouts on "digital mental hygiene" provide practical reminders and guidance for continued self-regulation. Facilitators emphasize discussion and self-reflection, encouraging learners to share experiences and reinforce adaptive strategies.

- Group or individual reflection sessions.
- Integration of basic mindfulness or grounding exercises at the start of workshops.
- Handouts on "digital mental hygiene."

Sample Focus Groups activities & participant comments:

Digital pause technique: Learners practice the "Pause–Think–Check" approach before sharing or reacting online. *Participant comment:* "Stopping for a moment really changes how I react—I feel calmer and more in control." Emotional labelling exercise**:** Participants identify and discuss the feelings triggered by specific posts. *Researcher observation:* Participants initially struggled but gradually became more articulate in expressing emotions and linking them to their reactions.

14. Content Type Differentiation (News vs. Opinion vs. Ads)

Digital content comes in many forms—news reports, opinion pieces, sponsored content, and ads—but older learners often struggle to distinguish them, especially on social media. Misinterpreting ads as news or opinion as fact can lead to confusion, misinformation, or poor decision-making.

Objective: This training equips participants with practical skills to identify content types, recognize labelling cues, and develop habits of critical evaluation for safer, more informed online engagement. In specific learners are supported to distinguish clearly between news reports, opinion pieces, sponsored content, and ads—especially on social media.

Learning Goals:
a. Teach participants to differentiate news, opinion, and sponsored content.
b. Highlight visual and textual cues that signal content type.
c. Encourage reflection on bias and editorial tone in factual reporting.
d. Build practical skills for navigating social media and digital news platforms critically.

Learning Outcomes:
a. Participants consistently identify content type correctly across different platforms.
b. Learners recognize hidden biases or editorial tones in news articles.
c. Participants can explain why a piece is an ad, opinion, or news report.

Identified needs: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Confusion over ads presented as news.
- Struggles to recognize opinion pieces vs. factual reporting.
- Requests for clearer content labelling.

Training activities:

Participants practice hands-on differentiation exercises:

- **Media anatomy workshops**: Deconstruct real articles and label content types.
- **Label spotting games**: "Is it news, ad, or opinion?" timed challenges.
- **Platform walkthroughs**: Highlight visual cues and disclaimers (e.g., "Sponsored").
- **Discussion of hidden bias**: Even factual articles may carry editorial tone or selection bias.

Delivery style:

Physical or digital card-sorting activities supported hands-on practice, reinforcing recognition of content types and fostering peer discussion to strengthen critical evaluation skills.

- Real-time annotation of articles on shared screen or printed versions.
- Collaborative sorting activities (physical or digital card sorting).

Sample Focus Groups activities & participant comments:

Discussion of hidden bias: Learners explored subtle editorial tones and selection bias in factual articles. *Highlight in behaviour:* Several participants spontaneously debated which articles could influence readers' opinions without changing facts.

15. Disinformation, Misinformation & Malinformation Awareness Training

This foundational module is designed to precede training on headline literacy, emotional resilience, and scam detection, as understanding the categories of false or misleading information strengthens all subsequent judgment skills in digital environments

Objective: Participants learn to recognize misinformation, disinformation, and malinformation, understand the tactics used to spread them, and grasp the potential consequences. The goal is to equip learners with both awareness and practical strategies to critically assess content online and help them clearly understand the definitions, tactics, and real-world consequences of various types of false or misleading information, and to build strategies to critically assess online content.

Learning Goals:

a. Build clear understanding of misinformation, disinformation, and malinformation.
b. Highlight real-world consequences of false or harmful content.
c. Provide tools and mental checklists to verify content credibility.
d. Foster critical thinking and cautious engagement with online information.

Learning Outcomes:

a. Participants can differentiate misinformation, disinformation, and malinformation in practice.
b. Learners identify suspicious posts, articles, or social media content using red-flag cues.
c. Participants can describe psychological triggers that amplify false content.
d. Learners demonstrate basic fact-checking skills using guided exercises.

Identified needs: As concluded from the FGs in all Consortium's countries, the most important needs for all beneficiaries are

- Confusion or unfamiliarity with terms like "misinformation," "disinformation," and "malinformation."
- Low awareness of how false content spreads and influences public opinion.
- Lack of tools and mental checklists to verify information credibility.

Training activities:

Participants practice hands-on categorization and verification activities:

- **Clear definitions with real-life examples**:
    - **Misinformation**: False info shared unknowingly (e.g., outdated COVID guidelines).
    - **Disinformation**: Deliberately false info spread to deceive (e.g., deepfakes, conspiracy pages).
    - **Malinformation**: Genuine info used with harmful intent (e.g., leaked private photos).
- **Case comparisons**:
    - Participants evaluate real and fake social media posts and articles. Identify which category they fall under and why.
- **Spread patterns**:
    - How and why misinformation "goes viral" — explore clickbait psychology, bots, and share behaviour.
- **"Red Flag" checklist**:
    - Develop and distribute a simple printable reference list with cues like:
        - Lack of credible source
        - Sensational language

        - ♣ No date or author
        - ♣ Reverse image search doesn't match
        - ♣ Too good/too scary to be true
- **Fact-checking exercises**:
    - Guided practice using fact-checking sites.
    - Show how to do basic source checking and keyword re-searching.

Delivery style:

Training combines visual and narrative methods, including dramatized scenarios and simple infographics to illustrate concepts. Peer discussions and group reflection on personal encounters with false information reinforce learning, while gamified tools like "misinformation quizzes" or "fake or real?" slideshows maintain engagement and encourage active participation.

- Visual and narrative-based teaching (e.g., use of dramatized scenarios, simple infographics).
- Peer discussions and group reflection on personal encounters with false information.
- Gamified tools (e.g., "misinformation quiz," "fake or real?" slideshow).

Sample Focus Group activities & participant comments:

Clear definitions with examples**:** Participants explored distinctions:

- Misinformation (false info shared unknowingly, e.g., outdated health guidelines)
- Disinformation (deliberately false info to deceive, e.g., deepfakes, conspiracy pages)
- Malinformation (genuine info used with harmful intent, e.g., leaked private photos) *Participant comment:* "Seeing examples made these terms concrete—it was easy to confuse them before."

Determinations

Taking into consideration the results of Focus Groups and the reports provided by the partners, IDEC produced the guidelines for educational modules development to be used by partners in order to develop the Eduverse modules in each country in WP4. These guidelines provide a structured framework, best practices, and key recommendations to ensure that all modules are pedagogically sound, culturally relevant, and aligned with the needs identified during the participatory research phase. Partners can use these guidelines as a foundation to design and implement the Eduverse modules in each participating country under WP4. This approach guarantees consistency across contexts while allowing flexibility for local adaptation, ensuring that the training materials are both effective and contextually appropriate for learners.

Conclusions

The series of training activities aimed to enhance digital literacy, self-efficacy, and online resilience among older adults across participating countries. Drawing on findings from focus groups, partner reports, and observational notes, this section summarizes the main conclusions of the training interventions. The conclusions highlight participants' learning outcomes, common challenges encountered, and cross-cutting implications for designing future educational modules. By integrating both qualitative and quantitative insights, the analysis emphasizes not only skills acquisition but also the psychosocial and cognitive dimensions of digital engagement.

Digital Navigation and Problem-Solving

The training sessions focused on improving participants' confidence in navigating digital environments and solving common technical problems independently. Participants demonstrated measurable progress in managing complex interfaces, such as e-government portals and subscription management. Many learners reported increased self-assurance when performing tasks that previously caused anxiety, such as unsubscribing from unwanted emails or completing online forms.

Observations during practical exercises revealed that guided exploration of frequently used public sites, combined with simulated problem-solving scenarios, helped participants internalize strategies for efficient navigation. Participants often expressed relief at discovering techniques, which simplified their digital experience. The research team noted that participants who initially hesitated gradually exhibited greater autonomy, reflecting a successful transfer of skills from structured activities to real-life applications.

Online Safety, Privacy, and Data Protection

A key component of the training involved raising awareness of online scams, phishing attempts, and personal data protection under GDPR. Participants were initially uncertain about how to distinguish legitimate communications from fraudulent content and often lacked knowledge of their rights and recourse options. Several participants highlighted the empowerment they felt upon understanding their rights to data erasure, access, and control. Observers noted that participants actively applied these skills on their devices, indicating immediate integration into personal routines. This outcome underscores the importance of combining conceptual knowledge with practical, experiential learning, as participants were better able to retain information when they could immediately act on it.

Confidence-Building and Digital Self-Efficacy

Emotional barriers such as fear, anxiety, and perceived incompetence were addressed through dedicated modules on self-efficacy. Activities such as safe-to-fail exercises, peer testimonials, and mentorship pairs facilitated growth in both self-confidence and willingness to experiment in digital environments. Participants reported that even minor successes, when tracked and celebrated, reinforced their belief in their capacity to learn and adapt.

The workshops revealed that creating a supportive and non-judgmental learning atmosphere is essential for older adults, particularly when prior experiences with technology have been negative or discouraging. Group celebrations of milestones and the "no-stupid-questions" policy were effective in reducing shame and promoting curiosity, while peer mentoring provided ongoing encouragement beyond formal sessions.

Financial Literacy and E-Commerce Competence

Modules addressing digital financial literacy and safe online shopping were among the most transformative for participants. Prior to training, many learners expressed anxiety around entering personal and financial information online and reported reliance on others to complete even basic transactions. Structured tutorials on e-commerce platforms, secure payment methods, and the identification of fraudulent websites resulted in measurable improvements in both knowledge and confidence. Observers noted that participants became increasingly proactive in exploring platforms independently, demonstrating not only technical competence but also improved decision-making and risk assessment skills.

Navigating Public Services and Administrative Portals

Participants frequently struggled with bureaucratic interfaces and official forms. Training focused on practical walkthroughs of national portals, simulation of administrative tasks, and instruction on digital signatures and document handling. By using real-world scenarios, participants were able to contextualize abstract digital skills and apply them to essential services. The researchers highlighted that participants' confidence increased when they could complete tasks under guided supervision, demonstrating that experiential learning bridges gaps between knowledge and autonomy.

Managing Information Overload and Cognitive Load

A recurring challenge for participants was navigating the rapid flow and complexity of online information. The training addressed this through strategies such as chunking content, prioritizing key information, and controlled digital breaks. Exercises encouraged learners to pause, assess relevance, and systematically organize digital input. Timed activities and interactive drills proved particularly effective. Observers noted a visible reduction in anxiety and hesitation among participants when engaging with dense digital content, suggesting that cognitive load management strategies can directly enhance perceived competence and reduce mental fatigue.

Media Literacy and Critical Thinking

Participants' ability to critically assess online content improved substantially through modules on headline literacy, content differentiation, and algorithm awareness. Workshops focused on emotional manipulation, sensationalism, opinion versus news content, and exposure to echo chambers. Learners developed habits of pausing before reacting, evaluating the source and tone of information, and questioning algorithmically curated feeds. Peer discussions and collaborative exercises were instrumental in reinforcing learning outcomes, allowing participants to share insights and strategies.

Emotional Resilience and Impulse Control

The training addressed the psychosocial aspects of digital engagement. Emotional regulation tools, including digital pause techniques, emotional labelling, and cognitive load management, enabled participants to reduce reactionary sharing and manage online stress. Participants reported feeling more in control when navigating contentious content or emotionally charged posts.

Cross-Cutting Implications

In summary, several common themes emerged across all thematic areas

- **Experiential learning is essential:** Participants learned most effectively when training combined demonstration with hands-on practice.

- **Peer support enhances motivation:** Sharing experiences and peer mentoring reinforced engagement and reduced anxiety.
- **Clarity and accessibility are critical:** Simple language, visual aids, and local-language resources were consistently highlighted as facilitating factors.
- **Psychosocial factors matter:** Confidence, emotional resilience, and digital self-efficacy are as important as technical competence.
- **Modular and flexible delivery:** Participants benefited from both in-person and online options, with tiered pacing and blended materials accommodating diverse needs.

Recommendations for Future Module Development

Based on the conclusions of the Focus Groups, the following recommendations are proposed for the ongoing development of Eduverse modules:

1. Integrate experiential exercises throughout all modules, emphasizing practical application and repetition.
2. Include cross-cutting psychosocial support, such as confidence-building, mentorship, and reflection exercises.
3. Ensure content accessibility with plain language, visual aids, multilingual support, and step-by-step guidance.
4. Incorporate provisions on emotional resilience, cognitive load management, and algorithm awareness early in the curriculum.
5. Facilitate peer collaboration and discussion to enhance motivation, retention, and knowledge transfer.
6. Provide clear, structured guidelines for partners to maintain consistency while allowing local adaptation.

Final Reflections

The comprehensive training demonstrates that older adults can significantly enhance their digital literacy, safety, and self-efficacy when educational interventions are carefully designed and implemented. Beyond technical skills, participants gain valuable psychosocial competencies, fostering greater independence, autonomy, and confidence in online environments. The results of the focus groups and partner reports affirm that combining practical exercises, peer support, and structured guidance creates a robust framework for lifelong digital learning.

The Eduverse training model offers a replicable, adaptable blueprint for future digital literacy programs, ensuring that older adults are not only capable of navigating digital spaces but also empowered to engage safely, critically, and confidently.

TABLES

Tables below summarize the key outcomes, participant feedback, and training module insights

Table 1: Module Overview and Learning Objectives

Module	Objective	Key Skills / Knowledge Gained	Observed Outcomes
Digital Navigation & Problem-Solving	Build confidence navigating online platforms	Portal navigation, task completion, file handling	Participants performed tasks independently; reduced anxiety
Online Safety & Privacy	Understand scams, GDPR rights, and personal data control	Identifying phishing, managing privacy settings, understanding consent	Increased awareness of data rights; participants applied privacy settings on devices
Financial Literacy & E-Commerce	Promote safe online transactions	Secure payments, recognizing fake sites	Reduced dependency on others; greater transaction confidence
Headline Literacy & Critical Thinking	Recognize sensationalism	Identifying emotional language in headlines	Improved ability to pause, reflect, and evaluate news critically
Algorithm Awareness & Echo Chamber Exploration	Understand content personalization	Filter bubbles, biases	Participants recognized bias in feeds and practiced neutral searches
Emotional Resilience & Impulse Control	Manage emotional responses online	Digital pause, emotional labelling, cognitive load management	Participants reported reduced impulsive sharing and stress

Table 2: Common Challenges & Addressed Needs

Challenge	Training Activity	Impact on Participants
Low confidence with online forms	Guided portal walkthroughs	Increased autonomy in administrative tasks
Anxiety about scams & data misuse	Real-world examples, “red flag” checklists	Higher trust in their ability to detect suspicious content
Difficulty filtering online information	Chunking, skimming, task prioritization exercises	Improved efficiency and focus; reduced cognitive overload
Confusion between news, opinion, and ads	Label spotting, content differentiation exercises	Enhanced critical reading; better discernment of content type
Emotional reactivity to content	Pause–Think–Check, mindfulness exercises	Participants reported calmer, deliberate engagement

Table 3: Participant Feedback Highlights

Theme	Representative Feedback	Frequency / Notes
Empowerment & Confidence	"I can finally handle online forms without asking my children."	High; echoed in >70% of focus group participants
Practicality of Modules	"I liked the hands-on approach—watching, then doing."	High; hands-on exercises consistently rated most helpful
Anxiety Reduction	"I don't panic when I get a suspicious email now."	Moderate to high; linked to safety and privacy modules
Peer Learning	"Hearing others' experiences helped me understand faster."	High; peer support valued for motivation and reassurance
Need for Clarity	"Some terms were confusing, but the explanations helped."	Moderate; plain language aids comprehension

Table 4: Recommendations for Future Module Development

Recommendation	Rationale	Implementation Suggestion
Emphasize experiential learning	Hands-on practice reinforces skills	Simulations, live demonstrations
Include psychosocial support	Confidence & resilience improve digital adoption	Peer mentoring, reflection sessions, group celebrations
Ensure accessibility	Older adults have varying literacy levels	Glossaries, multilingual resources, step-by-step guides
Introduce emotional resilience early	Reduces stress and impulsive behaviour	Integrate mindfulness & pause techniques
Encourage peer collaboration	Sharing experiences enhances retention	Structured discussion groups, group tasks
Provide clear partner guidelines	Ensures uniform quality across countries	Standardized templates, instructions for local adaptation

Table 5: Consolidated summarizy of the main needs, recommended training approaches, and indicative activities from training modules

(a) Main Needs (Summarized)	(b) Basic Training Recommendations (Summarized)	(c) Indicative Activities
Low digital confidence & fear of mistakes	Warm, supportive environment; incremental, safe-to-fail tasks	Digital journaling, peer mentoring, "safe mistakes" exercises
Difficulty accessing culturally/ linguistically appropriate tools	Use local language, simple visuals, multilingual facilitation	Glossary of terms, browser/app language settings tutorials, translation tool practice
Limited experience with digital finance & online shopping	Practice-based learning, visual guidance, step-by-step demos	Guided "fake" purchases, secure payments walkthrough
Difficulty using e-government services	Live demonstrations, simulations, self-paced exercises	Portal walkthroughs, digital signature tutorials
Cognitive overload & time pressure online	Chunking, prioritization, focus strategies	"Slow Down & Scan" exercises, tab/bookmark management, digital breaks
Lack of awareness of data privacy & GDPR	Practical, rights-focused guidance with real examples	Privacy settings walkthroughs, cookie consent demos, data rights exercises
Vulnerability to sensationalist or emotional content	Reflective reading, tone awareness	Compare & contrast headlines, emotional impact drills
Lack of understanding of algorithmic influence & echo chambers	Visual explanations, hands-on demos, optional device exploration	Filter bubble simulations, personalized feed review
Impulse sharing & online stress	Mindfulness, reflection, cognitive load management	Digital pause technique, emotional labelling
Difficulty distinguishing news, opinion, and ads	Interactive, real-time content labelling	Content label spotting games, discussion of hidden bias
Low awareness of misinformation types	Foundational education before other critical thinking modules	Case comparisons, "Red Flag" checklists, fact-checking exercises

Table 6: Summary of Needs, Recommendations, and Activities

Domain	Main Needs (Summarized)	Basic Training Recommendations (Summarized)	Indicative Activities
Digital Confidence & Self-Efficacy	Fear of mistakes, low self-worth, perceived incompetence online	Warm, supportive learning; safe-to-fail challenges; peer mentorship	- Safe-to-fail exercises with guided recovery - Peer testimonials and mentorship pairs
Access & Language Barriers	Difficulty with English interfaces, lack of national language options	Use native language materials, multilingual facilitators, simple layouts	- Glossary creation with national equivalents - Language settings tutorials - Practice with translation tools
Financial & E-Commerce Literacy	Anxiety entering financial info, limited online transaction experience, dependence on others	Step-by-step tutorials, safe practice environments, visual guidance on secure transactions	- Intro to common e-shops - Safe purchasing flow simulations - Overview of payment methods and scam recognition
E-Government Services	Difficulty navigating portals, low confidence with official forms, jargon barriers	Walkthroughs, live demos, simplified language, self-paced adjustments	- Portal walkthroughs - Simulation tasks (upload forms) - Digital signature explanations - File handling practice
Cognitive Load & Time Management	Overload from multitasking, dense info, lack of filtering strategies	Chunking content, tab/shortcut management, prioritization drills	- "Slow Down and Scan" exercises - Tab management practice - Time-saving shortcuts and skim-reading drills - Digital break reflection exercises
Privacy & Data Control	Confusion about personal data usage, anxiety about tracking, low GDPR awareness	Real-site demonstrations, scenario-based practice, rights-focused guidance	- GDPR introduction in simple language - Practice data deletion/download - Cookie consent exercises - Privacy settings walkthroughs
Media Literacy (Headline, Content, Algorithm)	Vulnerability to sensationalism, difficulty distinguishing news, opinion, ads; confusion about algorithmic personalization	Interactive workshops, analysis exercises, real-world examples	- Headline comparison - Tone and bias analysis drills - Algorithm explanation & echo chamber mapping - Content-type identification exercises
Emotional Resilience & Impulse Control	Impulse sharing, stress, cognitive fatigue, anxiety online	Pause-and-reflect strategies, emotional labelling, mindfulness integration	- Digital pause technique: "Pause–Think–Check" - Emotional labelling of posts - Cognitive load management tips
Disinformation Awareness	Confusion about misinformation, disinformation, malinformation; low awareness of spread mechanisms	Clear definitions, case comparisons, “red flag” checklists, fact-checking exercises	- Real-life examples for each type - Evaluate social media posts and categorize - Spread pattern demonstrations - Fact-checking guided exercises

Final Conclusions and Training Recommendations

Based on the focus group findings and partner reports, this deliverable summarizes the **key needs, recommended training approaches, and indicative activities** for older adults' digital literacy development. The aim is to provide a clear reference for module development in WP4 across all participating countries.

Key Takeaways

1. **Confidence and autonomy are foundational.** All digital literacy interventions must begin by fostering a safe, supportive environment where mistakes are expected and learning is scaffolded.
2. **Hands-on, practice-based methods outperform lecture-only formats.** Simulations, walkthroughs, and interactive exercises help learners internalize complex tasks.
3. **Content must be accessible.** This includes native language materials, clear visual guides, simplified terminology, and multi-modal delivery (video, print, and live demo).
4. **Cognitive and emotional support is essential.** Modules must integrate strategies for time management, attention control, and emotional regulation, reducing cognitive overload and online stress.
5. **Media and information literacy is intertwined with emotional resilience.** Understanding disinformation, headline manipulation, algorithm effects, and content types equips learners to engage critically rather than reactively online.
6. **Data privacy and financial security are non-negotiable.** Practical training on GDPR rights, cookie management, and secure online transactions ensures learners can navigate digital spaces safely.

Implementation Notes

- The tables above should serve as a **core framework** for developing Eduverse modules in each country.
- Training sessions should **combine multiple domains** where relevant (e.g., financial literacy + GDPR + safe e-commerce) to reflect real-world scenarios.
- Printable materials, checklists, and step-by-step guides are highly recommended to **reinforce learning outside the classroom**.
- Trainers should adopt **flexible pacing**, offering extra support for participants with limited prior experience.

Conclusion

The consolidated analysis of participant needs and partner reports provides a **comprehensive roadmap for digital literacy training**. By following these recommendations and guidelines and by leveraging the indicative activities, module developers can ensure that older adults or adults with weak digital skills can gain confidence, autonomy, and critical judgment skills to navigate the digital world safely and effectively.

APPENDIX 1

FG ENTRY QUESTIONNAIRE

Erasmus+ Programme, KA220-ADU

"Beyond lack of Understanding, Beyond disInformation"

Participant Recruitment Questionnaire

Thank you for your interest in our adult education program regarding misinformation and disinformation! Please take a few minutes to fill out this form to help us understand your needs and interests.

Your responses will help us design an educational program that suits you best.

Your personal data are under GDPR protection. The legal basis that would be used to process your personal data will be the provision of your consent.

Your personal data will be processed as long as it is required for the research project. If we can anonymise or pseudonymise the personal data you provide, we will undertake this and will endeavour to minimise the processing of personal data wherever possible.

Personal Information:

1. Age: _____
2. Gender:
   - Male
   - Female
   - Prefer not to say
3. Contact Information (for future communication):
   - Phone Number: _____
   - Email Address: _____

4. What is the highest level of education you have completed?
   - Less than high school
   - High school diploma or equivalent
   - Some college
   - Bachelor's degree
   - Other (please specify): _____

5. What is your current employment status?
    - Employed full-time
    - Employed part-time
    - Self-employed
    - Unemployed
    - Retired
    - Other (please specify): _____

6. Rate your ability to read and understand information in print-based texts (e.g., books, newspapers etc.)
    - Not able at all
    - Somewhat able
    - Able
    - Very able.

7. Rate your ability to read and understand information in digital texts (e.g., on the Internet)
    - Not able at all
    - Somewhat able
    - Able
    - Very able.

8. Rate your ability to express your ideas in written speech.
    - Not able at all
    - Somewhat able
    - Able
    - Very able.

9. Rate your ability to use, interpret, and communicate mathematical information in daily life situations.
    - Not able at all
    - Somewhat able

- Able
- Very able.

10. How confident are you in your ability to identify misinformation and disinformation online (e.g., fake news, misleading posts, deepfakes, unmarked AI-generated content, conspiracy theories, hate speech etc.)?
    - Not confident at all
    - Somewhat confident
    - Confident
    - Very confident

11. How comfortable are you with using digital tools for searching information (e.g., computers, smartphones, tablets)?
    - Not comfortable
    - Somewhat comfortable
    - Comfortable
    - Very comfortable

12. Why are you interested in learning about digital literacy and misinformation awareness?

(Check all responses that apply)

- Improve my digital skills for work
- Learn how to identify misinformation and disinformation online
- Be able to check if the information I find online is reliable, false, inaccurate or non-appropriate (e.g. fake news, hate speech, political propaganda, commercial promotion).
- Learn about deepfakes and unmarked AI-generated content
- Enhance my online safety and privacy
- Protect my digital identity in online environments (e.g. usernames, likes and posts on social media, petitions signed online).
- Help my family members regarding online misinformation and safely
- Personal interest
- Other (please specify): _____

13. What specific areas of digital literacy would you like to focus on?

(Check all responses that apply)

- Basic computer skills (e.g. navigating the Internet)
- Search engines, finding a website responding to specific needs.
- Using public services platforms
- Identifying reliable information online
- Using social media
- Online communication tools
- Online privacy and safety
- Fact-checking and avoiding misinformation
- Other (please specify): _____

14. Rate your competence with regards to the following tasks:

(Check the response that applies)

No use at all

Introductory level

Intermediate level

Advanced level

- Reading news or articles online
- Social media (e.g., Facebook, X(Twitter), Instagram)
- Watching videos (e.g., YouTube)
- Searching for information
- Online shopping
- Online banking
- Online public services
- Other (please specify): _____

15. Have you encountered any issues with misinformation and disinformation online? (e.g., fake news, deepfakes, unmarked AI-generated content, conspiracy theories, hate speech)
    - Yes
    - No

16. If yes, where do you most often encounter misinformation? (Check all responses that apply)
    - Social media platforms (e.g., Facebook, X(Twitter), Instagram)
    - News websites
    - YouTube or online video platforms
    - Email or messaging apps
    - Other (please specify): _____

17. How interested are you in learning techniques to fact-check and verify online information?
    - Very interested
    - Somewhat interested
    - Neutral
    - Not interested
18. How do you prefer to learn? (Check all responses that apply)
    - In-person classes
    - Online classes
    - Hybrid (combination of online and in-person)
    - Self-paced learning using traditional media
    - Self-paced learning using digital media
    - Group learning

19. Do you want any specific topic about misinformation and disinformation to be included in this adult education program? _____

20. Do you have any specific goals or expectations for this adult education program regarding misinformation and disinformation? _____

21. Are you interested in participating in the focus groups that will be organised?

_____

Thank you for taking part in this survey

PRIVACY POLICY

pursuant to and for the purposes of Article 13, EU Regulation 2016/679

on the protection of natural persons with regard to the processing of personal data

and on the free movement of such data, and repealing Directive 95/46/EC

Soc. Coop. AFORISMA Impresa Sociale, with registered office in Via dei Cappuccini 4 - 56121 - Pisa (PI), P.IVA 01535630501 (hereinafter, the "Data Controller"), as data controller on behalf of the project partnership composed of:

- Pučko otvoreno uciliste Koprivnica, Starogradska ulica 1 48000 Koprivnica, Croatia
- Virtualis S.r.l., Via S. Donato, 1243 55100 Lucca, Italy
- Aintek Symvouloi Epicheiriseon Efarmoges Ypsilis Technologias Ekpaidefsi Anonymi Etaireia, Iroon Polytechneiou 96 185 36 Peiraias, Greece
- University of Peloponnese, Stavrou 28 Kai Karyotaki 28 221 00 Tripolis, Greece
- Zasavska ljudska univerza, Trg svobode 11a 1420 Trbovlje, Slovenia

(hereinafter, "Partner(s)").

We inform you pursuant to Article 13 EU Regulation No. 2016/679 (hereinafter, "GDPR") that your data will be processed in the following manner and for the following purposes:

1. Data undergoing processing

The Data Controller processes the personal identification data (e.g. first name, surname, e-mail, identification document, signature, photo and video - hereinafter referred to as 'personal data' or 'data') that you provide when signing the Beyond lack of Understanding, Beyond disInformation project participation list.

2. Purpose of processing

The processing of the personal data provided is aimed solely at:

- use of images and audio-visual material collected during the activities;
- internal statistical analysis;
- creation and sending of additional material and updates on the project.

The legal basis for the processing is explicit consent.

3. Method of processing

Personal data will be processed in print, computerised and telematic form and entered into the relevant databases that can be accessed by those responsible for data processing.

Processing may also be carried out by third parties who provide specific processing, administrative or instrumental services necessary for the achievement of the aforementioned purposes.

All data processing operations are carried out in such a way as to guarantee the integrity, confidentiality and availability of personal data.

4. Data retention period

The data will be retained for 10 years after the end of the project (31/10/2025) and for the obligations imposed by current civil/tax regulations.

5. Scope of communication and distribution of data

In relation to the purposes indicated in point 2, the data may be communicated to the following entities

- financial administrations or public institutions in fulfillment of regulatory obligations;
- third parties involved in the project;
- Project Partners for the production of internal reports;
- Italian National Agency for reporting requirements;
- companies and/or corporate, tax and fiscal consulting firms for particular obligations and needs of the company itself;
- companies and/or law firms for the protection of contractual rights.

6. Rights according to Articles 15, 16, 17 18, 20, 21 and 22 of EU REG. 2016/679

We inform you that as a data subject you also have the right to file a complaint with the Supervisory Authority. The rights are listed below, and you may assert them by addressing a specific request to the Data Controller and/or the Data Processor, as indicated in point 1.

Art. 15- Right of access by the data subject

The data subject shall have the right to obtain from the controller confirmation as to whether or not personal data concerning him or her are being processed, and, where that is the case, access to the personal data and the information concerning the processing.

Art. 16 - Right to rectification

The data subject shall have the right to obtain from the controller without undue delay the rectification of inaccurate personal data concerning him or her. Taking into account the purposes of the processing, the data subject shall have the right to have incomplete personal data completed, including by means of providing a supplementary statement.

Art. 17 - Right to erasure ('right to be forgotten')

The data subject shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay.

Art. 18 - Right to restriction of processing

The data subject shall have the right to obtain from the controller restriction of processing where one of the following applies:

- the accuracy of the personal data is contested by the data subject, for a period enabling the controller to verify the accuracy of the personal data;
- the processing is unlawful and the data subject opposes the erasure of the personal data and requests the restriction of their use instead;
- the controller no longer needs the personal data for the purposes of the processing, but they are required by the data subject for the establishment, exercise or defense of legal claims;
- the data subject has objected to processing pursuant to Article 21(1) pending the verification whether the legitimate grounds of the controller override those of the data subject.

Art. 20 - Right to data portability

The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided.

In exercising his or her right to data portability pursuant to paragraph 1, the data subject shall have the right to have the personal data transmitted directly from one controller to another, where technically feasible.

Art. 21 - Right to object

The data subject shall have the right to object, on grounds relating to his or her particular situation, at any time to processing of personal data concerning him or her which is based on point (e) or (f) of Article 6(1), including profiling based on those provisions.

Art. 22 - Automated individual decision-making, including profiling

The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her.

CONSENT TO THE PROCESSING OF PERSONAL DATA REGULATION (EU) 2016/679

The undersigned ..... declares to have received the information referred to in Article 13 of the EU Regulation 2016/679, in particular with regard to the rights recognised by the EU Regulation 2016/679 and to consent, pursuant to Article 7 et seq. of the Regulation, to the processing of personal data, including special data, in the manner and for the purposes indicated in the information notice itself, in any case strictly connected with and instrumental to the management of the purposes referred to in point 2 of the information notice.

Place, date

Signature for acceptance

Withdrawal of consent to processing

Please note that, pursuant to Article 7 of the Regulation, I have the right to withdraw my consent to the processing of my personal data at any time, in writing, even after the conclusion/termination of the agreement, and to exercise my rights by sending a communication

- by email, to the address: info@aforismatoscana.net
- or by mail, to: Soc. Coop. AFORISMA Impresa Sociale Via dei Cappuccini, 4 - 56121 Pisa (PI)

APPENDIX 2

FG SATISFACTION QUESTIONNAIRE

"BUBI – Beyond lack of Understanding, Beyond Disinformation"

Focus Group - Satisfaction of Participants

Location **Date**

Name **Signature**

1. On a scale of 1 to 5, how satisfied were you with the focus group?

- 1 = Not satisfied at all
- 2 = Slightly satisfied
- 3 = Neutral
- 4 = Satisfied
- 5 = Very satisfied

2. What did you value most about the session:

1. Quality of Discussion – Were the topics relevant, insightful, and engaging?
2. Facilitator Effectiveness – Was the session well-guided, inclusive, and productive?
3. Opportunity for Participation – Did you feel heard, respected, and able to share your opinions?
4. Comprehensiveness of Topics – Were all key issues and concerns thoroughly discussed?
5. Relevance to Your Needs – Did the session address the topics most important to you?

3. What are the key learnings from the session:

1. Learning about different kinds of functional literacy
2. Understanding problem solving in digital environments
3. Understanding my weaknesses in literacy skills
4. Other .....

5. In which areas do you suggest any improvements:

1. More real-life examples
2. Interactive activities
3. Other .....

SATISFACTION QUESTIONNAIRE REPORT TEMPLATE			
Overall Satisfaction Rating	**Frequent Appreciations & Key Takeaways**	**Suggestions for Improvement**	**Researcher's Recommendations**
Average Participant satisfaction Rating	[Summarize key insights participants mentioned]	[Summarize feedback on structure, format, or content]	[List actionable improvements based on feedback]
	[Summarize specific skills or knowledge gained]	[Any technical difficulties or logistical concerns?]	[Suggestions for refining future focus groups]
	[Any unexpected takeaways?]	[Preferred training adjustments or additional topics requested]	

Prepared by: [Researcher's Name]
Date of Submission: [Insert Date]

APPENDIX 3

FG REPORTING TEMPLATE

BUBI Focus Group Report Template

Country:
Date:
Location:
Facilitator:
Number of Participants:
Number of Focus Groups in the Session:

1. Focus Group Overview
Objective:

- Assess digital literacy needs and functional literacy skills/weaknesses/needs.
- Understand challenges in recognizing and tackling misinformation.
- Identify preferred training methods (if mentioned / discussed)

Participant Demographics (groupings/trends):

- Age Range:
- Gender Distribution:
- Education Level:
- Occupation:

2. Quantitative Findings – we can reach [2a] results if we simulate discussions simulating the themes in the Recruitment Questionnaire
Findings corresponding to Recruitment Questionnaire [Questions 6-18] according to the discussion in the focus groups – IF RUN BY THE RESEARCHERS

Theme corresponding to Question	***Percentage/Number of Participants***
6	*[Insert %]*
7	*[Insert %]*
….	*[Insert %]*
Effectiveness of training	*[AVERAGE / scale 1 to 5 / measured by "Satisfaction"]*

Quantitative Findings (corresponding to recruitment questionnaire)		
Theme corresponding to Quest	*Percentage/No of Participants*	*Comments*

3. Qualitative Findings
3.a. Key Themes & Insights

During a researcher-guided or spontaneous discussion in the groups
FG SCOPE – record the following themes + any other relevant theme that emerges:
Reading Literacy (Evaluating Text-Based Information)
Numeracy (Understanding Statistics and Data)
Problem Solving in Digital Environments (Navigating and Assessing Online Information)
Dimensions to record deficits:

- **Misinformation Challenges [corresponding to Q19]:** [Summarize recurring issues, e.g., device use, online navigation]
- **Functional Literacy Weaknesses:** [Summarize difficulties in comprehension, critical thinking, etc. as mentioned in the free discussion]
- **Additional Concerns/Comments:** [Any other relevant findings]

Table version A

Easiest format to record researched themes

Quantitative Findings (corresponding to FG agreed themes) in %		
Specific Func Lit deficits	Challenges to recognize/tackle misinformation+disinformation	Strategies to enhance their skills in evaluating information

Table version B

Enhanced format to note whether the themes emerge spontaneously or in researcher-guided prompts

Qualitative Findings - Key Themes & Insights					
Researcher guided discussion			Free discussion in groups		
Misinformation challenges	Functional literacy deficit	Strategies to enhance their skills in evaluating information	Misinformation challenges	Functional literacy deficit	Strategies to enhance their skills in evaluating information
Additional comments					

Table version C

Comprehensive format to classify findings per type of Functional Literacy

Quantitative Findings (corresponding to FG agreed themes) in %			
	Literacy	Numeracy	Problem solving
Specific Func Lit deficits			
Challenges to recognize/tackle misinformation+disinformation			
Strategies to enhance their skills in evaluating information			

ALSO WE CAN REDORD Notable Quotes

- *"[Insert quote]"* (Participant, Age X)

4. Recommendations based on findings

- **Key Training Areas:** [List suggested focus areas for training]
- **Proposed functional literacy improvements:** [Suggestions for refining the initiative]
- **Further Research Needs:** [Identify gaps requiring additional study]

Recommendations based on findings		
Key Training Areas	Proposed functional literacy improvements	Further Research Needs

Attachments (if applicable) – DO WE NEED THESE?

- [data charts, transcripts, or supplementary materials]

Prepared by: [Researcher's Name]
Date of Submission: [Insert Date]

APPENDIX 4

Guide for training module development

Based on the PROJECT's SCOPE (functional literacies and online content) the 15 thematic areas identified as weaknesses during the first round of Focus Groups can be grouped as follows in 5 GENERAL TRAINING MODULES (to be developed by 5 partners, respectively)

Thematic training areas based on FG challenges

1. Critical reding and evaluation skills
2. Functional digital numeracy and financial interface training
3. Digital navigation and problem solving workshops
4. Misinformation and scam recognition
5. Confidence building and digital self efficacy training
6. Multilingual and accessible digital literacy support
7. Digital financial literacy and safe online shopping
8. Navigating e-government services and administrative portals
9. Managing time pressure and information overload online
10. Understanding privacy settings, data control and GDPR
11. Headline literacy training – aware of sensationalism and emotional language
12. Algorithm awareness and echo chamber exploration
13. Emotional resilience and impulse control in digital spaces
14. Content type differentiation (i.e. news vs opinion vs ads)
15. Misinformation & Disinformation awareness training

These thematic areas can be grouped as follows (keeping the three core functional literacys as the core training and adding one baseline level and one specialization level)

BASIC (prerequisite)	GENERAL DIGITAL LITERACY 5, 9, 10
FUNCTIONAL	NUMERACY 2, 7, 12
FUNCTIONAL	LITERACY 1, 6, 11
FUNCTIONAL	PROBLEM SOLVING 3, 8, 13
CONTENT RELIABILITY	INFORMATION DISORDERS 4, 14, 15

The BASIC MODULE comprises of prerequisite knowledge and digital skills that provide the baseline for the beneficiaries in order to be able to further develop their functional literacies in online environments

The THREE FUNCTIONAL LITERACY MODULES correspond to the Project's core objectives, and cover specific areas in the dimensions of LITERACY, NUMERACY and PROBLEM SOLVING

Finally, the CONTENT RELIABILITY MODULE refers to the general skill of developing critical thinking and awareness so as to be able to categorize online content and to use the suitable functional literacies in order to evaluate and manage all kinds of content online

For all these 5 modules each of the 5 partners will develop 1 TRAINING MODULE comprising from 10-15 slides of theory or explanatory or descriptive text PLUS 5 activities covering the categories developed by the University of Peloponnese.