CURRICULUM

DesinfoEND: Developing critical thinking to counteract disinformation across Europe

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1. Introduction

The desinfoEND Curriculum has the main function to serve as a guide to combat disinformation in adult education by using Dialogic Media Literacy Gatherings and Interactive Groups, both encapsuled as Successful Educational Actions (SEAs) (Flecha, 2015) by the European project INCLUDE-ED: Strategies for inclusion and social cohesion in Europe from education (2006-2011).

This Curriculum is one of two deliverables of a Toolkit developed as part of the Erasmus+ desinfoEND project (2022-2024). The other deliverable is the Methodology, which explains the theoretical framework of Dialogic Learning (Flecha, 2000; Aubert et al., 2008) behind this Toolkit. It is addressed to learn how to use Dialogic Media Literacy Gatherings and Interactive Groups to promote critical thinking, and the importance of Information and Communication Technologies (ICTs) and Media Literacy competence to counteract disinformation.

The Curriculum is developed from the content-specific dialogic digital and media literacy curricula needed to tackle disinformation in adult education. It is based on specific topics that were discussed at the time of drafting the project and includes concrete activities with usable materials for implementation and evaluation. Thus, the objective of providing practical materials to professionals and volunteers interested in counteract disinformation is to train vulnerable adults in competences needed for a critical and active digital citizenship participation.

2. Digital Competences

One of the most important issues to consider to tackle disinformation, are the digital competences based on the European Digital Competence Framework for Citizens (DigComp) (Vuorikari et al., 2022), which offers a tool to track each citizen's digital competences and eventually proceed with an upskilling. It can be useful in several different situations and opportunities, both for personal and professional development.

2.1 What is DigComp?

The European Digital Competence Framework for Citizens, also known as DigComp, it was developed by the European Commission (EC) to describe and assess digital competences and skills that people need to use in various aspects of their lives. It provides a structured way of understanding and evaluating digital skills and knowledge.

The actual and most recent version available is the DigComp 2.2 version and consists of 21 competences divided in the following five competence areas:

● Information and data literacy

● Communication and collaboration

● Digital content creation (including programming)

● Safety (including digital well-being and competences related to cyber security)

● Problem solving.

In this regard, the aim of this project is not only to learn digital competences in general, but the ICT skills necessary to be able to search for information in digital media and from different evidence-based sources.

2.2. Five competence areas

1. INFORMATION AND DATA LITERACY	2. COMMUNICATION AND COLLABORATION	3. DIGITAL CONTENT CREATION	4. SAFETY	5. PROBLEM SOLVING
1.1 Browsing, searching and filtering data, information and digital content	2.1 Interacting through digital technologies	3.1 Developing digital content	4.1 Protecting devices	5.1 Solving technical problems
1.2 Evaluating data, information and digital content	2.2 Sharing information and content through digital technologies	3.2 Integrating and re-elaborating digital content	4.2 Protecting personal data and privacy	5.2 Identifying needs and technologies responses
1.3 Managing data, information, and digital content	2.3 Engaging in citizenship through digital technologies	3.3 Copyright and licenses	4.3 Protecting health and well-being	5.3 Creatively using digital technologies
	2.4 Collaborating through digital technologies	3.4 Programming	4.4 Protecting environment	5.4 Identifying digital competence gaps
	2.5 Netiquette			
	2.6 Managing digital identity			

3. The creating process of the desinfoEND Curriculum

Within the framework of the desinfoEND project, three of the Consortium countries (Spain, Italy and Romania) carried out pilot courses with participants from their countries to improve learners basic digital competences, defined by DigComp. These courses were composed of different sessions with the aim of improving the participants' knowledge of the Internet and existing platforms, such as online translators or Adhyayana and Sappho. Additionally, most of the sessions highlighted the importance of using critical thinking when browsing and using the Internet, both in terms of security as well as being able to recognize disinformation.

When creating this Curriculum, each country sent in their data of how they conducted each session. In this sense, they all specifically explained the objective of each session, the distribution of time, what material they used, and what they underlined during each session.

The **desinfoEND Curriculum**, is composed of three activities that followed the methodology of two Successful Educational Actions: Dialogic Media Literacy Gatherings and Interactive Groups. As it is explained in the **desinfoEND Methodology**, the Dialogic Media Literacy Gatherings includes two different options with the same results: Dialogic Pictorical Gatherings and Dialogic Scientific Gatherings. All these activities have been tested and evaluated by the three countries to ensure that the implementation of this methodology is effective in different contexts. They were selected amongst the Consortium countries, as the most important activities to address some of the most important digital competences recognized in DigComp to combat disinformation and encourage critical thinking.

The second part of the Curriculum, the **desinfoEND Annex**, is giving an overview of how each country, depending on the profile of their participants, has structured their sessions. These are examples that you can use to conduct one or several of these activities. The important thing to have in mind, is that to ensure the exit of the activities, they must be implemented using both Successful Educational Actions explained in this Curriculum and in the Methodology: Dialogic Media Literacy Gatherings and Interactive Groups.

4. The DesinfoEND project's participative approach

An important aspect to highlight about this curriculum is that it was created through a participatory process that included National Coordination Committees (NCC) created in each country that implemented the project: Spain, Italy, and Romania.

These NCCs were composed of at least one technician, one volunteer and two participants from the target group of the project: adults with low educational level, +65 years old and/or unemployed. The NCCs are a way of assuring internal quality control and increasing the participation of vulnerable adults. They oversee the overall project and they evaluate each activity and each output of the project. Thus, the NCC has been part of the elaboration of this Curriculum, Methodology, and MOOC (see the website of the project). The members of the NCC have been part of the decision making of the activities, the contents, and the design, to ensure its relevance for the readers.

This participative process and including both participants and volunteers in the decision-making process of the project results is important because it ensures that these deliverables are easily accessible to anyone who wants to delve into the topic of tackling disinformation in digital media. Their opinions and arguments are as valid as the technical team.

5. The desinfoEND Curriculum

The activities conducted within the framework of this project were based on two different SEAs: Interactive Groups (Valls and Kyriakides, 2013) and Dialogic Gatherings. As it was mentioned before, they have been recognized as such by the research project INCLUDE-ED: Strategies for inclusion and social cohesion in Europe from education (2006-2011). The SEAs have been proven to contribute to favoring educational success and social inclusion in different educational stages, no matter the context. Furthermore, they have been internationally recognized as based evidence educational actions (Flecha, 2015).

The Pilot Courses were organized on three different sections with activities addressed to cover different needs. The first section is related to learn basic digital skills, such as turn on and off the computer, create folders, create an e-mail account, etc. At this point, is important to highlight that the contents of the basic digital skills literacy section should start by considering the learning needs of the group, always prioritizing participants with lower digital skills knowledge. The second section of the courses included activities related to learn how to search for information online and different resources to contrast this information. Finally, the third section is related to promote critical thinking by the implementation of Dialogic Media Literacy Gatherings, which includes Dialogic Pictorical Gatherings (DIMELI, 2002-2004) and/or Dialogic Scientific Gatherings (ScienceLit, 2016-2018) (Buslón et al., 2020) (see Methodology).

Out of all the activities carried out during the pilot courses, for the present Curriculum, it was chosen to describe the step-by-step process of three different activities, one of each section, that should be followed to properly implement this course and achieve the same results. During the activities of the section 1 and 2 it was used Interactive Groups and in the activities of section 3 there were used Dialogic Media Literacy Gatherings.

Each section explains which DigComp competences have been addressed, what activities have been carried out, and which Successful Educational Action has been used to carry out those. Below there is a detailed explanation of what measures have been taken before, during and after the sessions.

For the evaluation of the desinfoEND course it is important to consider quantitative indicators and qualitative indicators. For the quantitative data, it is suggested that the trainer use the pre-post questionnaire developed by Clifford et al. (2020) to evaluate digital competences of the participants before taking the course and after. This questionnaire must be filled in by all participants in the first session and in the last session. In addition, the trainer can evaluate the course by gathering qualitative data during all sessions and making group discussions at the end of some of the sessions to assess participants opinions about the course.

Overview of the activities is presented as follows:

Curriculum activities	Key objectives/Topics
Activity 1: **Creation and use of an e-mail**	- Create a Google mail account. - Send and receive texts/files. - Learn to create mail tags (important/unread) - Learn to highlight mails. - Learn to detect spam. - Learn to block accounts
Activity 2: **Search for information online**	- How to search for reliable information online - How to navigate different online platforms - How to look up if something is fake or real - Understand web site addresses and their components - Learn about different areas of a website - Learn how to search engines work and when to use them - Learn to conduct simple search (e.g Google vs. Google scholar)
Activity 3: **Dialogic Pictorical Gathering**	- Develop critical thinking. - How to use digital devices to contrast information. - How to contrast information in daily life. - Improve communicative and argumentation skills using evidence-based information. - Co-creation of knowledge on relevant topics.

5.1 Section 1: Creation and use of an e-mail.

What and how will we learn?

Digital competences	Activities	Successful Educational Action
2.1 Interacting through digital technologies **2.2 Sharing information and content through digital technologies** **2.6 Managing digital identity**	● Create an e-mail account. ● Send and receive emails. ● Learn to categorize emails.	Interactive groups
4.2 Protecting personal data and privacy	● Learn to identify spam. ● Learn to block accounts.	Interactive groups

How will we structure the activity?

Before the class/ The set-up	● Adapt content to the skills and profiles of the participants.
	
	● The learning process should be designed to the pace of the participants.
	
	● Make sure to have the material needed:
	  - Screen projector
	  - Internet connection
	  - PC/tablet/smartphones

During the class/ The lesson	1st Part of the session:
	● Start the session by posing basic questions:
	  - Do you have PC/tablet/smartphone?
	  - Do you have an e-mail account?
	  - Do you know how to send/receive e-mail?
	  - Are you familiar with Google platforms?

	- Participants will work in pairs with one computer – to encourage dialogic and interactive learning. - The trainer will explain the content clearly. Use visual and auditory cues. - Show the participants in the big screen each step of the process, so they can follow it in the 2nd part of the session. - If needed, repeat with practical examples. 2nd Part of the session: - The classroom must be organized in Interactive Groups (two or three participants per computer). - Trainer will propose a practical activity to put in practice what was explained during: - Send and receive e-mails. - Read the e-mails out loud. - Categorize the e-mails. - Volunteers must ensure that both participants in each computer are solving the exercise/activity by interacting and try to intervene in the solution as less as possible. - Propose to the participants to explain out loud to the rest of the group all the steps followed to carry out the practical activity.
After the class/ The closing	- Self-assessment: - Use the created e-mail account. - Evaluation: - Group discussion with the participants (if they liked the session, thought it was useful, liked the methods used…). - Prepare for next session: - The knowledge gained in this session must be directly used in the next session

5.2 Section 2: Search for information online

What and how will we learn?

Digital competences	Activities	Successful Educational Action
1.1 Browsing, searching, and filtering information/data/digital content	• Browsing the internet • Searching the internet	Interactive groups

How will we structure the activity?

Before the class/ The set-up	• Consulting the volunteers on how to structure the class, and choose the platforms to be used.
	
	• Materials needed:
	  - Smartphone/tablet/personal computer
	  - Pen and notebook (to write down participants turn to speak, and take note)
	  - Internet connection.

During the class/ The lesson	1st part of the session: • The trainer will explain how to find the right words for research engines, how to orient among the results, suggest features embedded in search engines, difference between similar search engines (Google vs Google scholar) • The trainer will explain the content clearly by using a screen projector so the participants can follow all the steps. • It is suggested to encourage participants to take notes and not follow the step by step by using the computer in this first part. 2nd part of the session:

	● The classroom must be organized in Interactive Groups (two or three participants per computer). ● The trainer will propose to the group to choose a topic of interest to search for information such as racism, migration, health, human rights, etc. ● Participants will have to use Google by entering key words in the search engine. For example, if the topic health is chosen participants must think of using *covid-19, treatment, vaccines,* etc. ● After this first trial, participants can do the same procedure but using google scholar and compare the information found in both engines. ● To finish the session, the trainer can leave a slot to have a group discussion. These are some example questions that can be consider: - How do the different types of material differ compared to the same search in Google. - When would you use Google or Google Scholar for a search? ● Volunteers must ensure that both participants in each computer are solving the exercise/activity by interacting and try to intervene in the solution as less as possible.
After the class/ The closing	● The participants can directly apply their new skills of browsing the internet and critically orienting themselves in the virtual domain, into their daily lives. ● Evaluation: 　- Trainer must take notes during the interactive group activity and the group discussion and analyze what has been learnt. 　- Group discussion with the participants after the session (if they liked the session,

	thought it was useful, liked the methods used…).
	● Prepare for next session: - The lessons browsing and search the internet are preliminary to the implementation of Dialogic Media Literacy Gatherings

5.3 Section 3: Dialogic Pictorical Gathering

What and how will we learn?

Digital competences	Activities	Successful Educational Action
1.2 Evaluating data/information/digital content	● Discuss the topic and hoaxes. ● Contrasting information using different online platforms. ● Co-create knowledge by exchanging ideas and opinions.	Dialogic Media Literacy Gathering

How will we structure the activity?

Before the class/ The set-up	● Decide with participants and volunteers: - Dialogic Pictorical Gathering (DPG) or Dialogic Scientific Gathering (DSG) (see Methodology for a more detailed description). ● Choose a topic with the participants (migration). ● Explain how a DPG works and the criteria that will be used to choose the images.

	- Consult with volunteers about the images to be used in the DPG.
	
	- Minimum 3 images (promotes different perspectives of the same topic).
	
	- Make sure to have the material needed:
	  - Images in a PowerPoint slide
	  - Pen and notebook (to write down participants turn to speak)
	  - Computers/tablets/smartphones
	  - Internet connection (to contrast information).

During the class/ The lesson	- Structure of the DPG:
	  - The first step is to choose a moderator.
	  - Moderator will show the images to the participants.
	  - They will have time to reflect and write down the ideas they want to share.
	  - Moderator writes down a list of participants who want to talk.
	  - The moderator gives the floor one by one on the list to present his/her ideas. Also, if anyone want to add/comment can do so.
	  - After the first idea is discussed, the moderator gives the floor to the next participant on the list.
	  - No one must be forced to participate, but the moderator should prioritize participants who have intervened less.
	  - Participants should be encouraged to use contrasted information during their interventions in the Gathering.
	  - Information should be gathered from online platforms based on scientific papers with high impact: Scopus, JCR.

After the class/ The closing	- Participants should be encouraged to contrast the information emerged during the Gathering so they can share it with the rest of the participants during the next session.

	● Evaluation: Interviews with participants to collect information on their experience, perception, and interpretation of the learning process:
	
	   - Did you enjoy the DPGs?
	   - How was your experience during the DPGs?
	   - What elements would you highlight as the most positive over the rest?
	   - Do you think DPGs helped you to think in a more critical way about relevant topics?
	   - Did they help you to contrast information?
	   - After participating in these DPGs, are you more interested in verifying the information read in the media?
	
	● Prepare for the next session:
	   - Decide if participants want to do another DPG or prefer to switch to an DSG.
	   - If participants choose an DSG, instead images the criteria of this specific Dialogic Gathering must be followed (see Methodology).

6. The DesinfoEND ANNEX with examples

The approach to create the desinfoEND Curriculum was to described the paths that any technician or volunteer interested in implementing a course for combating disinformation can use. In this sense, the activities designed for the project pilot courses were encapsulated in three sections: 1) Digital Literacy; 2) Media Literacy; and 3) Promoting Critical Thinking. In each of these sections, there were used two different Successful Educational Actions: Interactive Groups and Dialogic Media Literacy Gatherings. Nevertheless, the desinfoEND Curriculum is not a fixed guide; rather, each person implementing the course can design their activities according to the needs of the participants they have.

For this reason, the desinfoEND Consortium have decided to add an Annex with a short description of some of the activities carried out in each different pilot course. The sessions described below were chosen considering the type of activities to be included in the 3 pilot courses: Àgora (Spain), GIE (Romania) and Fondazione Centro di Studi Villa Montesca (Italy). Thus, activities from 1 to 4 are examples of digital literacy sessions; activities from 5 to 9 are related to searching for information on digital media and the aspects to take into account when surfing the web; and finally, activities 10 and 11 are examples of two of the Dialogic Gatherings used in this project: Dialogic Pictorical Gatherings and Dialogic Scientific Gatherings.

6.1. Digital Literacy activities

Activity 1	
Title	Introduction
Country of implementation	Romania
Objectives	The main objective of this session is to support learners to obtain information about the DesinfoEND project and to acquire basic knowledge & skills about the Internet: definition of Internet; access and necessary devices; how do we communicate through Internet; what we use Internet for.
Duration	4 hours.
Material Used	Computers, projector, internet connection, notepads, pens.

Activity 2	
Title	Using G-mail
Country of implementation	Spain
Objectives	To learn how to navigate the G-mail platform and its main functions. Participants will practice to write and send e-mails, by working in pairs, working in Interactive Groups.
Duration	Theoretical explanation: 1 hour and 30 minutes. Practical activity: 1 hour and 30 minutes.
Material Used	Computers, projector, internet connection, notepads, pens.

Activity 3	
Title	Google drive
Country of implementation	Romania
Objectives	Learn how to use Google Drive and get to know its main functions. The activity will focus on creating a Word document and downloading it to the computer. At the same time, participants will have to work in groups from a shared document that will allow them to put into practice the theoretical contents learned in the session.
Duration	4 hours.
Material Used	Computers, projector, internet connection, notepads, pens.

Activity 4	
Title	EU Digital Identity
Country of implementation	Romania
Objectives	Learners will be able to understand what the EU digital identity is, how it works, and its potential benefits and risks. Learners will also be able to explore the impact of the EU digital identity on their privacy and data protection rights.
Duration	2 hours
Material Used	Computers, projector, internet connection, notepad, pens.

6.2. Media Literacy activities

Activity 5	
Title	Security
Country of implementation	Spain
Objectives	Learn how to avoid virus/malware, learn about the function of cookies, and security e-mails. Participants will learn how to look for information considering security measures.
Duration	Theoretical explanation: 1 hour and 30 minutes. Practical activity: 1 hour and 30 minutes.
Material Used	Computers, projector, internet connection, notepads, pens.

Activity 6	
Title	Collaboration and Social Media Applications
Country of implementation	Romania
Objectives	Learners will be able to understand the role of collaboration in social media applications, identify and analyze examples of collaborative features in different social media platforms, and evaluate the benefits and risks of collaborating through social media.
Duration	4 hours.
Material Used	Computers, projector, internet connection, notepad, pens

Activity 7	
Title	Online Translators
Country of implementation	Italy
Objectives	Learn how to use online translators and their main functions, such as Google translate and Deepl. Participants will practice to translate an article, used in a previous session, from English to Spanish.
Duration	Theoretical explanation: 1 hour and 30 minutes. Practical activity: 1 hour and 30 minutes.
Material Used	Computers, projector, internet connection, notepad, pens

Activity 8	
Title	Getting information online
Country of implementation	Italy
Objectives	Train participants on how to search for information and news on the web. Explain how to conduct searches using search engines: keywords, web tools available, and how to conduct more in-depth research. Additionally, introduce the most reliable websites, with a particular focus on how to detect disinformation.
Duration	Theoretical explanation: 2 hours Practical activity: 2 hours.
Material Used	Computers, projector, internet connection, notepad, pens.

Activity 9	
Title	Adhyayana and Sappho
Country of implementation	Spain
Objectives	Get to know and learn how to navigate in the knowledge access platforms of Sappho and Adhyayana. Learn how to share evidence-based content with other users of the platforms.
Duration	Theoretical explanation: 1 hour and 30 minutes. Practical activity: 1 hour and 30 minutes.
Material Used	Computers, projector, internet connection, notepads, pens.

6.3. Promoting Critical Thinking activities

Activity 10	
Title	Dialogic Pictorical Gathering
Country of implementation	Spain
Objectives	Promote critical thinking through a critical reading of images based on contrasted information. Co-creation of knowledge between participants and volunteers.
Duration	Theoretical explanation: 1 hour and 30 minutes. Practical activity: 1 hour and 30 minutes.
Material Used	Computers, projector, internet connection, notepads, pens.

Activity 11	
Title	Dialogic Scientific Gathering: Global Conflicts and Human Rights
Country of implementation	Italy
Objectives	Participants will learn about the major global conflicts. They will develop their critical thinking skills and gain a more informed perspective on global conflicts. Identifying reasons and causes of various conflicts and understanding conflict dynamics. Learners will acquire knowledge about human rights and demonstrate increased engagement by actively participating in society.
Duration	Theoretical explanation: 2 hours Dialogic Scientific Gathering: 2 hours.
Material Used	Computers, projector, internet connection, notepad, pens

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