IO1 Open-AE Curriculum

Annex A – modules design

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Project Acronym	Open-AE
Project Title	Promote Open Source Technologies in non-formal Adult Education
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Deliverable Title	Open-AE Curriculum – Annex A
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Keywords	Curriculum, Adult Education, Open technologies, OERs
Abstract	This document presents the organization of the course to be delivered in the framework of the Open-AE project by specifying its diverse phases, the objectives and the learning outcomes, the kind of contents to be issued and how the participants (Teachers and Trainers working in the field of Adult Education) will be involved.
Authors	All Open-AE partners
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1. Theoretical, historical and political framework of FLOSS technologies & resources 10 hours (DigCompEdu 1.4, 1.5)		
Summary	*FLOSS stands for "Free/Libre Open-Source Software". Legally, Free Software and Open-Source take quite different attitudes to sharing source code and what obligations those who share legally require. The different attitudes are a product of political ideology and cannot be easily reconciled - though they can be neutrally explained (only) by referring to the legal concepts of 'share-alike' and a 'consortium'. The term FLOSS emerged to simply avoid having to discuss or define these ideas to ordinary users who want to know about the implications for end users. Which do not normally include the legal negotiations between contributors (Floss Concept Booklet)* Although FLOSS are no new phenomenon, many aspects of this domain still appear unknown. This Module gives an overview of FLOSS technologies, illustrating the fundamentals behind the free/libre open source movement and the state of the art of FLOSS in Europe. The Module aims at supporting learners to profit from the full potential of FLOSS, considering Free/Libre Open-Source Software as a tool for social and economic development.	
Learning Objectives	▪ Provide a historical and policy framework of FLOSS technologies ▪ Promote the use of FLOSS in Adult Education ▪ Stimulate the intentional participation in the free and open culture as part of the Netizenship	
Learning Outcomes	1. Identify diverse understandings of the concepts FLOSS technologies and OERs	*1 hour*
	2. Examine the different goals within the FLOSS movement	*1 hour*
	3. Compare FLOSS practices in EU countries	*1 hour*
	4. Critically analyze the importance of FLOSS and OERs in the field of non-formal AE training	*2 hours*

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	5. Critically analyze the policy framework of FLOSS in EU	*2 hours*
	6. Examine the use and advantages of open digital technologies in education	*2 hours*
	7. Foster learners' active and creative engagement through FLOSS technologies	*1 hour*
Teaching/Learning Activity	▪ Workshops/webinar ▪ Tests ▪ Self-study ▪ Literature Review ▪ Case study ▪ Brainstorming ▪ Wiki work	
Learning Contents	▪ OERs available in the OPEN AE Academy ▪ Theoretical framework on FOSS ▪ Policy Content	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ FLOSS promotes collaboration and contributions from different parties in software production and innovation processes. ▪ FLOSS holds great potential for developing countries. There are no licence fees, so ICT costs are lower. FLOSS uses open standards, avoiding lock-in and allowing for flexible solutions. (FLOSSInclude project)	

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To go further	Free/Libre and open source software: survey and study Free Software, Open Source, FOSS, FLOSS - same same but different Floss Concept Booklet FLOSSInclude Project: FLOSSInclude Proect: Free/Libre and Open Source Software: International Cooperation development roadmap

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2. The emergence of copyleft and free licences **10 hours (DigCompEdu 1.4; 1.5)**		
Summary	*You say: "This thought is mine." No, my brother, it is within you, nothing is ours.* *All have had it or will have it. Reckless ravisher, far from removing it from the common domain, Return it as a contribution: Sharing is so sweet!* *Tu dis : « Cette pensée est à moi. » Non mon frère, Elle est en toi, rien n'est à nous.* *Tous l'ont eue ou l'auront. Ravisseur téméraire,* *Au domaine commun bien loin de la soustraire,* *Rend-la comme un dépôt : Partager est si doux !* *Henri-Frederic Amiel (1821-1881), Swiss writer and philosopher* "All rights reserved", "Trademark", "patent", "copying or reproduction limited to strictly private use" ... When we talk about "culture", we are always brought back to the notion of appropriation (property), in this case, intellectual. Yet, the trend in free culture, is that ideas belong to everyone, and are, to a small extent like the air and water, our basic needs. The copyleft culture, also called free culture, was born from the world of software and the very many contributors who had one thing in common: their sense of the common good. The expression "free software" refers to freedom, not price. To understand the concept, you have to think of "freedom of expression", not "free access". Inspired by this innovative way of thinking about how to handle creative output, other initiatives have gradually moved copyleft out of the software world.	
Learning Objectives	▪ Provide a historical and policy framework of copyleft and free licences ▪ Promote the understanding and use of Free licences as a tool for evolving copyright ▪ Provide guidance to use the Creative Commons licences framework in real life scenarios	
Learning Outcomes	1. Identify diverse understandings of copyleft and free licences	*1 hour*
	2. Examine the different goals within the copyleft licenses	*1 hour*

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	3. Demonstrate copyleft and free licences use in different contexts	*2 hours*
	4. Analyze the importance of copyleft and free licences in the field of non-formal AE training	*1 hour*
	5. Describe the policy framework for copyleft and free licences in the EU	*2 hours*
	6. Examine the use and advantages of copyleft and free licences in different educational environments	*2 hours*
	7. Foster learners' active and creative engagement through copyleft and free licences	*1 hour*
Teaching/Learning Activity	▪ Workshops/webinar ▪ Self-study ▪ Literature Review ▪ Case study ▪ Brainstorming ▪ Wiki works	
Learning Contents	▪ OERs available in the OPEN AE Academy ▪ Theoretical framework on copyleft and free licences ▪ Policy Content	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)

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Key ideas	▪ From their first appearance in the 18th century, copyright and author's rights have been the target of criticism. This has only continued with the development of technologies that facilitate information copying and sharing. ▪ The goal of copyleft and free licenses is primarily to encourage in a simple and lawful way, the circulation of works, exchange and creativity. ▪ The *Creative Commons framework* is, therefore, aimed at authors who prefer to share their work and enrich the common heritage (the *Commons*) with freely available culture and information
To go further	Copyright and Copyleft, video intro: https://www.youtube.com/watch?v=xCzDXwUFB20 Creative Commons licences explained: https://www.youtube.com/watch?v=4ZvJGV6YF6Y - Copyleft: https://en.wikipedia.org/wiki/Copyleft Steal this film (2006): https://www.youtube.com/watch?v=V5J6u9AXe9k

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3. DigCompEdu framework for a common and opener education **8 hours (DigCompEdu 1.4; 1.5)**		
Summary	*"A scientifically sound framework describing what it means for educators to be digitally competent. It provides a general reference frame to support the development of educator-specific digital competences in Europe."* This module provides an overview of The Digital competence framework for Educators. This European framework details 22 competencies organized in six Areas. The focus is not on technical skills. Rather, the framework aims to detail how digital technologies can be used to enhance and innovate education and training. The module will focus on those areas highly relevant for Adult education explaining how the framework can be of high importance for educators and what are the benefits of developing such competencies using open source technologies. Practical examples will be given with reference to the six areas in order for students to know what open resources and tools are available on the field.	
Learning Objectives	▪ Provide background to DigCompEdu framework ▪ Provide reference to available open resources and tools ▪ Promote the use of a common European framework for educators	
Learning Outcomes	1. Understand the principles of DigCompEdu for improving digital skills in teaching	*1,5 hour*
	2. Identify the available open resources and tools and link them to the DigCompEdu areas	*1,5 hour*
	3. Promote the use of common European frameworks in education	*1 hour*
	4. Design and plan one's own educational and professional improvement	*2 hour*
	5. Identify one's own needs for becoming digitally competent in teaching	*2 hour*
Teaching/Learning Activity	▪ Workshops/webinar	

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	▪ Tests ▪ Self-study ▪ Assignment	
Learning Contents	▪ DigCompEdu framework ▪ Introduction to available open resources and tools on the field ▪ Readings ▪ PPT	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments: identification of one's own training needs and designing a plan for the professional development ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ The use of common European frameworks for analyzing how educators can improve and upskills in their professional life using open resources and technologies ▪ Setting a reference for educators for understanding what it means to be digitally competent and how to identify educators' training needs	
To go further	Digital competences framework for educators	

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4. Flipped classroom / project based-problem based learning (+ peer review) **10 hours (DigCompEdu 3.2; 3.3; 5.1; 5.2; 5.3)**	
Summary	*"Tell me and I forget, teach me and I may remember, involve me and I learn."* Benjamin Franklin. *"The greatest sign of success for a teacher... is to be able to say, 'The children are now working as if I did not exist."* Maria Montesori, italian educator and author. Flipped Classroom, project based learning, problem based learning ... different methods, techniques or methodologies that have something in common: the position in which students are placed is proactive, in the management of the power of their need to learn. If the students are working in groups, as in real life scenarios, learning becomes more significative. With these strategies the protagonism is placed in people with a desire to learn and the role of the teacher/trainer is that of a companion who has certain knowledge but also wants to learn with the students. In brief, **The Flipped Classroom (FC)** is a pedagogical model that moves the work of certain learning processes outside of the classroom and invests the class session time, along with the teacher experience, to promote and boost other processes of acquisition and knowledge practice inside the classroom. With **Problem based learning (PBL)**, the teacher lays out a question or a problem and the students have to give an answer or find a way to solve it through a process; they, teacher and student group, settle all together a milestone in the learning process. In **Project Based Learning (Project BL)**, the students are also at the center of the learning process, as a protagonist capable of generating solutions in response to the different opportunities; the process is closely related to the working environment and the main outcome is a product. The module will focus on this strategies, showing the most relevant ideas and key factors and will challenge the participants to re-think about their pedagogical practices.
Learning Objectives	▪ Understand the theoretical framework and the key factors of the 3 methods/strategies: Flipped Classroom, Problem Based Learning and Project Based Learning

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<table>
<tr><td></td><td colspan="2">▪ Learn to design or re-design the teaching-learning strategy using open sources and tools
▪ Create and evaluate activities based on this methods</td></tr>
<tr><td rowspan="6">Learning Outcomes</td><td>1. Understand the basics of the Flipped Classroom (FC) strategy and be able to implement it and to create a mind-map to explain it to the others.</td><td>1,5 hour</td></tr>
<tr><td>2. Draft the structure of a new flipped classroom module (or transform a classic module) to teach/learn a topic, using open sources and tools.</td><td>2 hour</td></tr>
<tr><td>3. Understand the basics of the Problem Based Learning strategy and be able to explain them to the students and colleagues.</td><td>2 hour</td></tr>
<tr><td>4. Design a PBL activity (or transform one that already exist) that could be applied to teach the use of some open software tools.</td><td>1,5 hour</td></tr>
<tr><td>5. Understand the basics of Project Based Learning strategy</td><td>2 hour</td></tr>
<tr><td>6. Design a Project BL activity (or transform one that already exist) that could be applied to teach the importance of promoting FLOSS.</td><td>1 hour</td></tr>
<tr><td>Teaching/Learning Activity</td><td colspan="2">▪ Literature review. Reading and processing the information.
▪ Cases of study. Technovation Challenge.
▪ Developing the draft of 3 different learning projects: FC, PBL and Project BL.
▪ Peer review.</td></tr>
<tr><td>Learning Contents</td><td colspan="2">▪ Flipped Classroom strategy. Components, stages, phases. Development of resources for the Flipped Classroom with FLOSS technologies, tools and strategies.
▪ Problem Based Learning. Stages. Approach of relevant problems for students. Brainstorming (problems to be solved). Open source resources available for the resolution of problems. Usual tools.
▪ Project Based Learning: components, stages, phases. Working in real situations. The challenge as a motor of learning. Collaboration and cooperation between students.</td></tr>
</table>

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Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments: individual or group projects. ▪ Peer review
Key ideas	▪ Technology changes, so methodology needs to be changed too. ▪ Move to open methodologies with FLOSS sources and tools helps the lifelong learning strategy: ongoing, voluntary, and self-motivated. ▪ Open source technologies help the sustainability of the learning process ▪ Learners empowered, at the center of the process	
To go further	Flipped Classroom Tools and Resources ANDROID APPS TO SUPPORT BLOOM'S REVISED TAXONOMY assembled by Kathy Schrock https://en.wikipedia.org/wiki/Project-based_learning https://en.wikipedia.org/wiki/Problem-based_learning PBL through the Institute for Transforming Undergraduate Education at the University of Delaware	

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5. Wikidata **10 hours (DigCompEdu 1.1; 2.1; 2.2; 2.3)**		
Summary	WikiData is an open data platform that belongs to the Wikimedia family of websites and hosts 57 millions items as of June 2019. Wikidata is a free and open knowledge base that contains various data types (eg, text, images, quantities, coordinates, geographical shapes, dates…). The basic entity in Wikidata is an Item. An item can be a thing, a place, a person, an idea, or anything else. What's specific to Wikidata is that the information is stored in a rigidly structured way to makes it possible for both humans and machines to process. Although it is now a knowledge base fairly widely used by machines, it is still largely unknown from the public as well as from its potential instructors, least understood. The intent of this module is to provide a Train the Trainer course that will provide them with a solid overview of Wikidata and opportunities that are attached to this open source project.	
Learning Objectives	▪ Understand the community ethics of Wikidata regarding sharing, licensing, data federation, and the commons ▪ Be able to present Wikidata engagement as a path to learn and experience collaboration in the free and open culture. ▪ Perform Wikidata edits to develop Wikimedia content ▪ Using Wikidata examples, learn some applications of sharing and querying data. ▪ Perform Wikidata queries to get information	
Learning Outcomes	1. Understand the why, background, history, and values of WikiData. Is able to provide an elevator pitch	*1 hour*
	2. Understand the structure and mechanisms of WikiData as well as social rules governing the community and the collaborative process	*2 hours*
	3. Is capable to (co)create and add content to Wikidata	*2 hours*
	4. Know tools for structured uploads and showcases of uses of such tools	*1 hour*

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	5. Know how to apply Wikidata (applications and case studies)	*1 hour*
	6. Understand the Query Service, discover SPARQL and know how to do a basic query	*2 hours*
	7. Know how to contact and connect to members of the Wikidata community. How to stay in touch with the latest news of the project and where to find resources	*1 hour*
Teaching/Learning Activity	▪ Workshop ▪ Edit-a-thon ▪ Webinar/tutorials videos ▪ Self-assessment ▪ Case study ▪ Brainstorming ▪ Quizz and games ▪ Training scenarios ▪	
Learning Contents	▪ Videos and tutorials ▪ Slides ▪ Reading materials ▪ Group discussions ▪ Practical exercises and games	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)

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Key ideas	▪ Wikidata is a free and open knowledge base that can be read and edited by both humans and machines. ▪ Mid 2019, Wikidata includes 57 millions items and growing ▪ Wikidata can give you answers to questions you have not dared asking yet ▪ Top cultural and commercial institutions are already working with WikiData ▪ Wikidata increasingly acts as a role model and central hub for knowledge databases ▪ Wikidata is still an early work in progress with many areas still bare
To go further	https://www.wikidata.org/wiki/Wikidata:Main_Page https://www.wired.com/story/inside-the-alexa-friendly-world-of-wikidata/ https://www.arl.org/resources/arl-whitepaper-on-wikidata/

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6. Slidewiki **10 hours (DigCompEdu 1.1; 1.2; 1.3; 2.2; 2.3; 3.3; 6.2)**		
Summary	SlideWiki is a Web application facilitating the collaboration around educational content. SlideWiki is an open web-based OpenCourseWare authoring system. It supports learning content authoring and management. It's tools allow collaboration, translation, communication, evaluation and assessment. With SlideWiki users can create and collaborate on slides; arrange slides in decks/presentations and share the presentations with the community. Slides, presentations, diagrams, assessment tests etc. are mainly created by tutors, teachers, lecturers and professors individually or in very small groups.	
Learning Objectives	▪ Understand the theoretical framework around Web applications to manage educational content ▪ Promote the use of Slidewiki web application in Open Adult Education ▪ Promote the (co)creation and sharing of educational content ▪ How to use open web-based OpenCourseWare authoring systems, like Slidewiki	
Learning Outcomes	1. Critically analyze the importance of collaboration and sharing educational content in Open Adult Education	*1 hour*
	2. Capacity to (co)create and share educational content	*2 hour*
	3. Promote the use of open web-based OpenCourseWare authoring systems	*1 hour*
	4. Autonomously learn from tutorials and videos	*2 hour*
	5. Create online courses using SlideWiki and organised learning content	*1 hour*
	6. Import different format presentations to Slidewiki and edit them	*1 hour*
	7. Create a collaborative space for adult education	*1 hour*

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Teaching/Learning Activity	▪ Workshops/webinar ▪ Tutorials and videos ▪ Tests ▪ Self-study ▪ Assignments and tasks ▪ Learning scenarios	
Learning Contents	▪ Videos and tutorials ▪ Slides and ppt ▪ Reading materials ▪ Group discussions ▪ Feedback exercises (blobs trees, Dixit cards, etc)	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation ▪ Personal and peer Feedback	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes) ▪ Feedback exercises
Key ideas	▪ SlideWiki is an open web-based OpenCourseWare authoring system. ▪ SlideWiki is a platform, where communities of teachers, students, lecturers, academics are empowered to create sophisticated educational content in a collaborative way. ▪ SlideWiki allows disseminating educational content	
To go further	The SlideWiki Code repository : https://slidewiki.github.io/	

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	Darya Tarasowa, Ali Khalili, Sören Auer and Jörg Unbehauen: CrowdLearn: Crowd-sourcing the Creation of Highly-structured E-Learning Content. 5th International Conference on Computer Supported Education (CSEDU 2013) Ali Khalili, Sören Auer, Darya Tarasowa and Ivan Ermilov: SlideWiki: Elicitation and Sharing of Corporate Knowledge using Presentations. Proceedings of the EKAW 2012, LNCS 7603, Springer 2012, ISBN 978-3-642-33875-5.

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7. Open Coding with Scratch **10 hours (DigCompEdu 3.1; 3.2; 3.3; 5.1; 5.2; 5.3; 6.1, 6.3; 6.5)**		
Summary	*"Although many of the programs designed to teach kids to code are very simplistic, many of them, like Scratch, are suitable for all ages. It doesn't matter how old you are…Get started with the basics of programming!"* Lifehacker This Module is an introduction to computer science using the programming language *Scratch*. *Scratch* is a free programming language and online community developed by MIT which can be used to create games, animations, songs and share them online. As of May 2019, community statistics on the language's official website show more than 40 million projects shared by over 40 million users, and almost 40 million monthly website visits. The Module aims at supporting learners to develop basic knowledge and skill in programming and code with Scratch Programming.	
Learning Objectives	▪ Provide background to Scratch Philosophy: "Imagine, Program, Share" ▪ How to code with Scratch ▪ Promote the use of Scratch in Adult education ▪ Promote the (co)creation and sharing of material	
Learning outcomes	1. Understand the principles of *Scratch* for creating, programming ands sharing material	*1 hour*
	2. Access support and resources for *Scratch*	*1 hour*
	3. Design and share your own *Scratch* project	*4 hours*
	4. Autonomously learn from tutorials and videos	*1 hours*
	5. Examine the use and advantages of the programming language *Scratch* in adult education.	*1 hours*
	6. Create a collaborative programming environment	*2 hours*

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Teaching/Learning Activity	▪ Workshops/webinar ▪ Tutorials and videos ▪ Tests ▪ Self-study ▪ Assignments and tasks ▪ Learning scenarios	
Learning Contents	▪ Videos and tutorials ▪ Slides and ppt ▪ Reading materials ▪ Group discussions ▪ Feedback exercises	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ *Scratch* is a free programming language and online community with more than 40 million projects shared by over 40 million users, and almost 40 million monthly website visits. ▪ *Scratch* can allow teachers and educators to create conceptual and visual lessons with games, animations and songs that may help visualize difficult concepts. ▪ *Scratch* encourages the sharing, reuse, and combination of code, as indicated by their slogan, "Imagine, Program, Share". Users can make their own projects, or they may choose to "remix" someone else's project. Projects created and remixed with Scratch are licensed under the Creative Commons Attribution-Share Alike License - Wikipedia	

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To go further	Scratch Educator Guide Creative Computing Scratch Projects Scratch Tutorials Scratch Cards Lamb, Annette; Johnson, Larry (April 2011). "Scratch: Computer Programming for 21st Century Learners" (PDF). **"Development of Scratch 1.0".** *en.scratch-wiki.info*. Retrieved 2019-05-18.

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8. Open robotics with Arduino **10 hours (DigCompEdu 3.1; 3.2; 3.3; 5.1; 5.2; 5.3; 6.1, 6.3; 6.5)**	
Summary	*Arduino is an open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. It's intended for artists, designers, hobbyists, and anyone interested in creating interactive objects or environments.* *https://www.makeuseof.com/* This module is an introduction to open robotics using the prototyping platform Arduino. It provides basic coding concepts for programming the Arduino microcontrollers. The Arduino project provides its own IDE and the language that is used is a dialect of features from the programming languages C and C++. The Arduino project started in 2005 and aimed at providing a low-cost an easy way to create devices that interact with their environment using sensors and actuators. Common examples of such devices intended for beginner hobbyists include simple robots, thermostats and motion detectors. The openness and ease-of-use of the project has led to mass adoption of micro-controller based electronics projects and was a catalyst in the creation of the Maker Movement. Arduino has become the number one choice for electronics makers, especially for developing solutions for the IoT marketplace, which has been predicted to become a $6 trillion market by 2021.
Learning Objectives	▪ Provide background to the makers philosophy. ▪ Learn how to code with Arduino. ▪ Learn the basics of electronics and how to work with shields ▪ Learn how to use Arduino as a stimulating tool towards STEAM education

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	▪ Promote the (co)creation and sharing of material/projects	
Learning Outcomes	1. Understanding the basics of coding with the Arduino language	*2 hour*
	2. Access support and resources for Arduino	*1 hour*
	3. Choose and create a project with Arduino: sensors, actuators & shields	*1 hour*
	4. Assemble and solder your project	*2 hour*
	5. Use libraries within a project	*2 hour*
	6. Autonomously learn from online projects and tutorials	*2 hour*
Teaching/Learning Activity	▪ Workshops/webinar ▪ Tutorials and videos ▪ Tests ▪ Self-study ▪ Assignments and tasks ▪ Learning scenarios	
Learning Contents	▪ Videos and tutorials ▪ Slides and ppt ▪ Reading materials ▪ Group discussions ▪ Feedback exercises	

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Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ Arduino allows teachers and educators to inspire young inventors to find digital solutions to problems. The low-cost of the Arduino hardware makes it the go-to solution in the realisation of an actual prototype. ▪ The openness and ease-of-use of the Arduino project has led to mass adoption of micro-controller based electronics projects and remains a catalyst in the creation of the Maker Movement. ▪ The Arduino project enables anybody to be a digital inventor.	
To go further	Arduino Tutorials Arduino Project Hub Arduino Education Hackster Arduino Projects Instructables Arduino Projects	

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9. 3D Printing **10 hours (DigCompEdu 3.1; 3.2; 3.3; 5.1; 5.2; 5.3; 6.1, 6.3; 6.5)**		
Summary	*Significant advances in additive manufacturing (AM) technologies, commonly known as 3D printing, over the past decade have transformed the ways in which products are designed, developed, manufactured, and distributed. 3D printing's ability and advantages over traditional manufacturing open plenty of opportunities for verticals, spanning from product design and development, customization service, to restructuring of supply chain for higher efficiency*. (European Commission, The disruptive nature of 3D printing) 3D Printing has limitless applications due to which it is so popular. This Module will introduce students to the additive manufacturing or three-dimensional (3D) printing, how it works and how it can be used in various industries. This Module operates in a variety of formats, involving lecture/demonstration, presentation about 3D printing, physical demonstrations and teamwork activity where learners pitch 3D printing business ideas in groups. After providing students with a basic background of AM, digital fabrication and Open Source 3D Printing, the Module will involve an intensive learning of open source hardware and software and open source platforms for creation of 3D objects.	
Learning Objectives	▪ Identify the key features and benefits of AM ▪ Enable learners to increase their computer skills using open software and hardware for 3D Printing ▪ Use open digital technologies to design, develop and customize products ▪ Enable the production and sharing of 3D Models and prototypes ▪ Explore methods of collaboration in small-group activities to learn from each other ▪ Explore methods of collaboration in small-group activities to learn from each other	
Learning Outcomes	1. Briefly describe the background, history and features of AM	*1 hour*
	2. Understand the basic principles of how 3D printers work	*1 hour*

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	3. Explore the potential of AM and the open digital technologies as a tool for addressing the Digital Transformation challenges.	*2 hours*
	4. Explore 3D printing software settings	*1.5 hour*
	5. Recognize the principles of designing models for 3D printing	*1.5 hour*
	6. Collaboratively pitch a 3D printing business idea	*3 hours*
Teaching/Learning Activity	▪ Literature Review ▪ Case study ▪ Brainstorming ▪ Peer Review ▪ Wiki ▪ Design project: Create 3D printing business idea	
Learning Contents	▪ Open Source 3D Printing ▪ Readings ▪ PPT	
Assessment	▪ Attendance ▪ Participation ▪ Mini-assignments ▪ Final project	Assessment Tasks: ▪ Mini-assignments ▪ Final projects
Key ideas	▪ AM technologies have been identified as one of the most promising production technologies at global level.	

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	▪ "Open source 3D printer" refers to a 3D printer whose hardware and software information are available to the public, typically under a license. The information can be used by anyone to build, modify, or improve the 3D printer (3dinsider)
To go further	Additive Manufacturing Why AM is Revolutionary European Technology Platform in Additive Manufacturing Blender_FOSS 3D Software SketchFab_FOSS 3D Software

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10. How to run a Fablab **10 hours (DigCompEdu 1.3; 1.5; 3.1; 3.2 3,3; 3.4; 5.1; 5.2; 5.3)**	
Summary	*The most effective way to do it, is to do it.* *Amelia Earhart, aviation pioneer and author.* A Fablab is much more than a space equipped for small-scale digital manufacturing. It is a concept, it is a point of view, it is a new way of generating wealth and empowerment within a community. Equipped with free, open and free technology and tools, Fablab is a space capable of generating a dynamic closely linked to collaborative learning, sharing and commons culture and the free exchange of resources and information. Within the framework of a Fablab, especially if it has a community orientation, new collaborative productive dynamics are generated, of joint learning to know "do it yourself", of Maker Culture. Creating a Fablab does not require large financial resources. Getting started is the first step and in this module we will analyze the first steps and we will plan the first stages of a Fablab.
Learning Objectives	▪ Identify what's a FabLab and the culture that's involved. ▪ Be able to start a FabLab initiative, understand which are the first steps and which technologies are more suitable to start. ▪ Detect some open technologies and tools into that are suitable in a FabLab environment. ▪ Know, detect and know how to use sources of information that provide resources that are useful in the framework of action of a FabLab. ▪ Explore Fablab practice communities that use open technologies and tools. ▪ Explore the territory to build the link between company - university - citizenship - public administrations (promote quadruple helix) ▪ Enable the participant to provide information, resources, models to Fablabs communities of practice. Open design.

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	▪ Support the participants of a FabLab in the process of learning and producing	
Learning Outcomes	1. Know what's a Fablab: digital fabrication, collaboration, learning by doing and DIT (Do it Yourself) The maker culture.	*2 hour*
	2. Recognize the potential of running a Fablab into a community. Personal and community needs versus mass production. Analysis of the quadruple helix potential into the territory: company - university - citizenship - public administrations.	*2 hour*
	3. Explore the potential of the use of open source hardware in the framework of a Fablab. Discover the technologies that are suitable to start a FabLab initiative.	*1,5 hour*
	4. Explore the potential of the use of open source software in the framework of a Fablab. Discover the technologies that are suitable to start a FabLab initiative.	*1,5 hour*
	5. Collaboratively design a new community Fablab	*1,5 hour*
	6. Peer review of the design of the community Fablab. First activities to be developed.	*1,5 hour*
Teaching/Learning Activity	▪ Literature review. Case study. Explore repositories. ▪ Collaborative design project: starting a Fablab into a community (work in small groups). Co-creation. ▪ Peer review	
Learning Contents	▪ Fablab concept. Collaborate. Learning together. DIT. Maker culture ▪ How to diagnose, explore and make emerge and manage the community needs. ▪ Fablab strategies: how to start a Fablab. ▪ Fablab open source hardware	

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	▪ Fablab open source software ▪ Repositories of information, content, templates. Open design. ▪ Sustainability strategies.	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Final project ▪ Ongoing evaluation ▪ Peer evaluation
Key ideas	▪ Fablab culture is closely related to the DIY and Maker culture, as well as FLOSS. ▪ Is important to consider and understand FabLabs as a living organism within the community ecosystem of digital social innovation in our territory ▪ A Fablab is always something "under construction" and to start one you don't need to have many tools or machines. A Fablab is a concept, and starting a Fablab is working under a concrete philosophy.	
To go further	Fablab in wikipedia Open design Co-creation Hackerspace Menichinelli, Massimo. "Business Models for Fab Labs" Fabacademy.org	

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11. Digital Storytelling for learners' empowerment 12 hours **(DigCompEdu 2.1; 2.2; 2.3; 3.1; 3.2 3,3; 3.4; 5.1; 5.2; 5.3; 6.1; 6.2; 6.3)**	
Summary	Digital Storytelling combines the best of two worlds: the 'new world' of digitized video, photography and art, and the "old world" of telling stories. This means the "old world" of PowerPoint slides filled with bullet point statements will be replaced by a "new world" of examples via stories, accompanied by evocative images and sounds (William Dauphinais, Pricewaterhouse Coopers) This Module aims at the development, production, and use of digital stories. Digital storytelling (DS) is an essential part of modern world education system, an active learning tool which can provide learners with skills and competencies needed for creating, managing and sharing open source digital stories. In fact, a variety of skills can be developed and practiced via the making of digital stories. This Module operates in a variety of formats, including lecture/demonstration, discussion/seminar sessions with an emphasis on workshop and discussion of assignments. The first part of the Module involves an introduction to Digital Storytelling (defining a story, types of stories etc.) and the intensive learning of new multimedia tools. The second part looks at the process that goes into making and sharing a digital story.
Learning Objectives	▪ Support the use of open digital technologies through digital storytelling in non-formal educational settings with adults. ▪ Enable learners to increase their digital skills using open software that combines a variety of multimedia including: text, still images, audio, video and web publishing. ▪ Become proficient with capturing and manipulating digital image, sound, and video ▪ Integrate different media (text, images, sound, video) into a seamless online environment ▪ Use open digital technologies to create and share stories ▪ Demonstrate critical thinking around digital storytelling, online media production, and the social and cultural media environment ▪ Enable the production and sharing of a digital story to stimulate personalization and learners' active engagement

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	▪ Explore methods of collaboration in small-group activities to learn from each other	
Learning Outcomes	1. Briefly describe the background, history, features and steps of DS	*1 hour*
	2. Explore the potential of DS as a method for telling stories by using open digital technologies	*1.5 hour*
	3. Recognize what is and what is not a digital story	*1 hour*
	4. Recognize and empower the 21st century skills	*1.5 hour*
	5. Create a storyboard for your digital story	*2 hours*
	6. Create and collect relevant materials for your digital story (images, voice, music, sounds, texts, titles) through open digital technologies	*4 hours*
	7. Recognize the free license material on the web	*1 hour*
Teaching/Learning Activity	▪ Literature Review ▪ Case study ▪ Brainstorming ▪ Peer Review ▪ Design project: Create your powerful digital story!	
Learning Contents	▪ Digital storytelling methodology ▪ Open source Video editing software ▪ Open source Audio editing software ▪ Videos ▪ Readings ▪ PPT	

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Assessment	▪ Attendance ▪ Participation ▪ Mini-assignments ▪ Final project	Assessment Tasks: ▪ Mini-assignments ▪ Final projects
Key ideas	▪ DS can be an effective tool which provides learners with the four C's of 21st Century skills (Critical thinking; Creativity; Collaboration; Communication). ▪ DS can be a powerful technology tool for enhancing learners' digital competence, supporting them to become proficient with open source video and audio software.	
To go further	Digital Storytelling: Creating digital stories Digital Storytelling Introduction to Storytelling Brights Guidelines Bruner, J 2002, Making stories: law, literature, life, Harvard University Press, Cambridge. Hartley, J & McWilliam, K (eds) 2009, Story circle: Digital Storytelling around the world, Wiley-Blackwell, Malden, MA. Lambert, J 2006, Digital Storytelling: capturing lives, creating community, 2nd edn, Digital Diner Press,Berkeley, California. Meadows, D 2003, *Digital Storytelling: research-based practice in new media, Visual Communication, vol. 2, no. 2, pp. 189–193.	

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	Kress, G 2003, Literacy in the new media age, Routledge, London. Lessig, L 2004, Free culture: the nature and future of creativity, Penguin, New York. Lessig, L 2008, Remix: making art and commerce thrive in the hybrid economy, The Penguin Press,New York.

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12. Intentional communication for civic empowerment and community engagement 10 hours (DigCompEdu 1.2; 1.3; 1.4; 3.2 3,3)		
Summary	*Digital technology has changed everything. Remember your first vision of the web? You read pages of information, such as reading a book. You treated the messages as a mail is processed. And gradually, you realized that you did not have to deal with a means of communication quite like the others. Single user of a post office or a virtual storefront store, you felt gradually become an actor…* *From the book Citoyens du Net (http://www.ynternet.org/page/livre)* In 2019, the web became 30 years old. With its hundreds of millions of forums, wikis, blogs, social networks, microblogs instant, he now justifies talking about webosphere. Google, Facebook, Twitter and Wikipedia are the most famous planets. Populated by hundreds of billions and billions of articles from different fields (title, message body, attachments, images, number of visitors, notes), the web is the heart which converge all the digital tools that have an open interface, standardized open access and accessible by all existing tools - smartphones, tablets, computers and connected things. The most interesting places are the ones where you can interact by commenting, changing, adding text or images in this matter.	
Learning Objectives	▪ Support the use of free and open digital technologies for intentional communication in day to day life ▪ Enable learners to realize and develop their intentional communication skills ▪ Use free and open digital technologies to develop intentional communication practices and habits ▪ Demonstrate critical thinking around intentional communication in various social and cultural environments ▪ Explore methods of online collaboration in small-group activities to learn from each other and support an intentional communication culture	
Learning Outcomes	1. Describe the background, history, features and steps of intentional communication in relation to the web culture	*1 hour*
	2. From consumer to actor of information society	*1 hour*

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<table>
<tr><td></td><td>3. Explore the good practices of intentional communication</td><td>1 hour</td></tr>
<tr><td></td><td>4. Social media rules and common uses of information</td><td>1 hour</td></tr>
<tr><td></td><td>5. Cases of intentional communication online: the Wikipedia example</td><td>2 hours</td></tr>
<tr><td></td><td>6. Create and share your intentional communication preferences</td><td>2 hours</td></tr>
<tr><td></td><td>7. Intentional communication as the basis of synergistic participation (with collaborative note taking)</td><td>2 hours</td></tr>
<tr><td>Teaching/Learning Activity</td><td colspan="2">▪ Literature Review
▪ Case study
▪ Brainstorming
▪ Self-evaluation
▪ Collaborative note taking
▪ Design project: Create your intentional communication preferences</td></tr>
<tr><td>Learning Contents</td><td colspan="2">▪ OERs available in the OPEN AE Academy
▪ Theoretical framework on intentional communication
▪ Good practices on intentional communication and synergistic participation</td></tr>
<tr><td>Assessment</td><td>▪ Attendance
▪ Participation
▪ Evaluation</td><td>Assessment Tasks:
▪ Assignments
▪ Ongoing evaluation
▪ Assessment (test/quizzes)</td></tr>
<tr><td>Key ideas</td><td colspan="2">▪ Collaborative and networked actions are not new in our human kind but have acquired the possibility of tremendous societal and economic leveraging.
▪ Accompanying users on organizing and, continuously, improving interpersonal communication behavior and skills is key</td></tr>
</table>

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	▪ Empower collective learning and exchange of practices on interpersonal communication activities is a crucial element of intentional communication for civic empowerment and community engagement ▪ Allow for more educated, individual and group, online participation and decisions based user generated data is also crucial
To go further	"Meeting" as a wiki use : Co-reporting the content of a meeting with online collaborative note-taking: https://en.wikibooks.org/wiki/WikiSkills_Handbook/WikiSkills_Training_scenarios GNU Kind Communications Guidelines: https://www.gnu.org/philosophy/kind-communication.html Group Works, "pattern language for bringing life to meetings and gatherings" https://groupworksdeck.org/patterns/Feedback and https://groupworksdeck.org/patterns/Distilling Wikinomics , Don Tapscott and Anthony D. Williams, 2006 Edition Portfolio

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13. Open operating system as a transition to FLOSS: GNU/ Linux 10 hours **(DigCompEdu 1.4; 1.5; 5.1; 6.1; 6.2; 6.5)**	
Summary	*I think, fundamentally, open source does tend to be more stable software. It's the right way to do things. Linus Torvalds* -- *In open source, we feel strongly that to really do something well, you have to get a lot of people involved. Linus Torvalds* --- *The Linux philosophy is 'Laugh in the face of danger'. Oops. Wrong One. 'Do it yourself'. Yes, that's it. Linus Torvalds* The spaces where digital technologies are taught, both in literacy and in depth levels, not only teach how to use these tools, but also teach how we relate to them and what values they entail. When we take the driving license, we learn to use cars that work with diesel, cars with gasoline or electric cars. We can even use cars manual or with automatic change. Should we not have to facilitate the same freedom to people who learn to use computers? With this approach we propose the experience of facilitating a telecentre (or a telecentre network) using 100% FLOSS solutions. We will analyze the options that we have to migrate to FLOSS, and we will plan the different steps that must be taken to make our migration a success. Warning: In this module we will not work on the specific technical knowledge to work with GNU / Linux, we will learn how to use them in a community process that will facilitate this migration.
Learning Objectives	▪ Learn about FLOSS software solutions and know how to install and maintain them. ▪ Be able to plan a migration to FLOSS taking into account the different factors: uses, users and scale. ▪ Analyze different migration strategies to FLOSS and evaluate them according to the context

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	▪ Analyze the real situation of each telecentre (or telecentre network) and know what is the FLOSS software that best suits the needs. ▪ Emphasize the importance of the human factor in the success of migration ▪ Learn about successful experiences of telecentres that work entirely with FLOSS software ▪ Re-think methodologies and review learning materials based on technological competencies (DigiCompEdu) and not on the learning of specific tools.	
Learning Outcomes	1. A migration support network design (FLOSS community)	*1,5 hour*
	2. The existing FLOSS solutions (suitable to match the needs of each center) map.	*2 hour*
	3. A migration plan to FLOSS	*1 hour*
	4. Perform an installation on GNU / Linux	*2 hour*
	5. Perform tasks for updating and maintaining these machines.	*1,5 hour*
	6. Draw up strategies that enhance work with FLOSS for the participants	*1 hour*
	7. Adapt the existing teaching material to work with the proposed FLOSS solutions.	*1 hour*
Teaching/Learning Activity	▪ Case study ▪ Search for documentation and reference manuals ▪ Elaboration of collaborative projects ▪ Preparation of repositories of collaborative documentation	
Learning Contents	▪ Community work to develop a support network. Roles of experts / participants. ▪ List the existing FLOSS solutions and compile documentation and support material. Selection of sources.	

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	▪ Different migration strategies that are suitable for different cases: dual or single booting, soft or hard migration, spaced over time or in block. ▪ Installing SO, installing programs. ▪ Reliable software sources. ▪ Teaching materials	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ Migration to FLOSS as a process that can be done in different ways, there is not a single path or unique guidelines. The technical factors must be taken into account: what the machines do, and what they have to do. The human factors must be taken into account too: the community process, during both, the design phase and the implementation (support) ▪ The didactic proposals of a telecenter with FLOSS can be fitted within the DigiCompEdu. ▪ Become an expert: search into your community who could be a reference, or become a reference!	
To go further	On the network, we can find a lot of documentation that give answers to specific problems. However, we find some free trainings that can help us have a more systematic knowledge of GNU / Linux systems: Introduction to linux (on EdX by The Linux Fundation) The "start from scratch" Linux course (Cisco NetAcademy) NDG Linux Essentials (Cisco NetAcademy)	

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	All these trainings give you an overview to understand the SO. You can find more comprehensive preparatory courses that prepare you for the acquisition of the Linux Professional Institute Certificate. (Payment)

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14. FLOSS skills for employment for Employment **10 hours (DigCompEdu 1.4; 1.5; 5.1; 5.2; 5.3; 6.1)**	
Summary	*"More and more, human resources managers rely on data-driven algorithms to help making hiring decisions and to select potential job candidates. These software systems can in some cases be so efficient at screening resumes and evaluating personality tests that 72% of resumes are excluded before a human being ever sees them. "* *In* "Hiring Algorithms Are Not Neutral", Harvard Business Review. *Gideon Mann* and *Cathy O'Neil. https://hbr.org/2016/12/hiring-algorithms-are-not-neutral* Choosing the right person for a job position can be challenging. Algorithms are, in part, our opinions embedded in a form of a computer code. Algorithms consider the simple fact that hiring is essentially a prediction problem. When a manager reads through resumes of job applicants, she/he is trying to predict which applicants will perform well in the job and which won't. Statistical algorithms are built for prediction of problems/costs and can be helpful in improving human decision-making. Algorithms can also have a darker side as they reflect human biases and prejudices that lead to machine learning mistakes and misinterpretations (perpetuating and reinforcing discrimination in hiring practices). The question now is not whether to use algorithms for selecting applicants, but how to get the most out of the machines.
Learning Objectives	▪ Provide background to FLOSS skills for employment ▪ Provide background to Human Resources methods ▪ Recognise the benefits and constraints of algorithms in HR ▪ Understand open algorithms as a new paradigm ▪ Understand the use of algorithms in the recruitment process ▪ Understand how to adapt a CV to have a better acceptance of algorithms ▪ Learn how to create a good online cv/ or a linkedin profile ▪ Learn how to create and update a good work profile online

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	▪ Understand how important it is to be part of an online community in order to seize new economic opportunities ▪ Understand how the market is changing and how online opportunities can facilitate entrepreneurship and personal branding ▪ Learn new ways of being entrepreneurial ▪ Know how to run a fundraising campaign online ▪ Understand different economic models like the donation culture and the wikinomics, among others ▪ Know how to improve their personal branding skills	
Learning Outcomes	1. From closed data to open algorithms: A new paradigm for social good	*1 hour*
	2. Understand how hiring algorithms work and the language algorithms process/understand(how does a machine think?)	*1 hour*
	3. Create an updated version of their cv that is more attractive to an algorithm and that will facilitate their recruitment process	*1 hour*
	4. Use keywords to describe their skills and competences	*1 hour*
	5. Design and plan one's own Cv/motivation letter and create and update a solid personal profile (participation, collaboration, cooperation)	*1 hour*
	6. Being able to use job searching platforms and apply to research vacancies and job positions online	*1 hour*
	7. Being able to recognise new economic opportunities online (patrons, crowdfunding, subscriptions, investors, etc)	*1 hour*
	8. Know how to use crowdfunding platforms (like youtube, kickstarter, Indiegogo, GoFundMe**,** etc) to support their projects and products	*1 hour*

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	9. Participants know how to run a fundraising campaign and how to boost their personal branding skills and their brand	*1 hour*
	10. Knows and understand new economic models (donations, premium services, wikinomics, among others) and is able to select accordingly	*1 hour*
Teaching/Learning Activity	▪ Workshops/webinars ▪ Online researches ▪ Self-study ▪ Assignments and tasks ▪ Group exercises	
Learning Contents	▪ Videos/webinars ▪ Learning sheets ▪ Reading materials ▪ PPT ▪ Group discussions ▪ Feedback exercises (blobs trees, Dixit cards, etc)	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ Algorithms for HR decision making cut costs and speed up the hiring process ▪ Algorithms mimic human decision making and human bias ▪ Hiring Algorithms demand a new perspective/a new way to present our skills and competences (work experience) ▪ Keywords to describe their skills and competences are fundamental when working with algorithms	

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	▪ Having an updated online profile (like in LinkedIn) is fundamental
To go further	Harvard Business Review Magazine https://hbr.org/ Hiring.Monster https://hiring.monster.com/employer-resources/recruiting-strategies/workforce-planning/recruiting-algorithms/ Forbes Magazine https://www.forbes.com/sites/karenhigginbottom/2018/10/19/the-pros-and-cons-of-algorithms-in-recruitment/#6bfbb2734098

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15. Data privacy culture: a FLOSS driven view **10 hours (DigCompEdu 1.4; 1.5; 5.1; 6.1; 6.2; 6.4)**	
Summary	*"Data protection is both a central issue for research ethics in Europe and a fundamental human right. It is intimately linked to autonomy and human dignity, and the principle that everyone should be valued and respected. For this principle to guide the development of today's information society, data protection must be rigorously applied by the research community"* *EC - "Ethics and data protection"* What are personal data? What does consent mean for the processing of personal data? How can they be used by third parties? Nowadays, in the world of social networks, e-learning platforms, e-commerce and other digital services, privacy and data protection is one of the most critical issues for citizens, researchers and companies. Digitalization has led to major changes in data-collection processes and protection of personal data. To meet the technological process, EU Member States have adopted the General Data Protection Regulation (GDPR), came into force on 25 May 2018 and based on seven basic data protection principles: "Lawfulness, fairness and transparency", "Purpose limitation", "Data minimization", "Accuracy", "Storage limitation", "Integrity and confidentiality" and "Accountability". The main purpose of GDPR is to lay the foundations to create a data privacy culture and to reduce the main risks of a data-driven society, such as electronic surveillance, profiling, disclosure of private information, etc. FLOSS culture offers a new way to understand and organise data, notably with the concept of data as commons. There are several existing initiatives on data as Commons (example: https://www.datacommons.org/) and a specific Commons driven license that can help us to further explore this area.
Learning Objectives	▪ Promote the use of a specific language, providing accurate definitions of the terminology related to personal data. ▪ Recognize a specific category of personal data: "sensitive data". ▪ Understand the conditions in which data processing can be allowed or not.

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<table>
<tr><td></td><td colspan="2">▪ Understand the processor duties and the citizen rights.
▪ Learn how personal data can be used by the processor or by third parties.
▪ Learn how to access, correct, transfer and delete your personal data.
▪ Understand the main risks of personal data processing.
▪ Provide background to promote the addressing on ethic issues.
▪ Understand open data and data as commons
▪ Recognise the projects and tools for data as commons</td></tr>
<tr><td rowspan="8">Learning Outcomes</td><td>1. Personal data: introduction and definitions from GDPR (art. 4)</td><td>1 hour</td></tr>
<tr><td>2. The seven principles of GDPR</td><td>2 hour</td></tr>
<tr><td>3. Conditions for informed consent and the right to object to data processing</td><td>1 hour</td></tr>
<tr><td>4. Data protection by design and by default</td><td>1 hour</td></tr>
<tr><td>5. “Secondary use”: use of previously collected data</td><td>1 hour</td></tr>
<tr><td>6. Outside EU: transfer and collection of personal data</td><td>1 hour</td></tr>
<tr><td>7. Privacy culture and open source</td><td>1 hours</td></tr>
<tr><td>8. Data as commons</td><td>2 hours</td></tr>
<tr><td>Teaching/Learning Activity</td><td colspan="2">▪ Workshops/webinars
▪ Online researches
▪ Self-study
▪ Assignments and tasks</td></tr>
</table>

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	▪ Group exercises	
Learning Contents	▪ Videos/webinars ▪ Learning sheets ▪ Reading materials ▪ PPT ▪ Group discussions ▪ Feedback exercises	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ Data protection as fundamental right ▪ Informed consent to data processing ▪ Data collecting and security of processing ▪ Risk management ▪ Open data and data as commons	
To go further	https://opensource.com/article/18/1/being-open-about-data-privacy https://www.brighttalk.com/webcast/13983/268187/gdpr-and-open-source-best-practices-for-security-and-data-protection http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/ethics/h2020_hi_ethics-data-protection_en.pdf https://ec.europa.eu/commission/priorities/justice-and-fundamental-rights/data-protection/2018-reform-eu-data-protection-rules_en	

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	https://europa.eu/youreurope/citizens/consumers/internet-telecoms/data-protection-online-privacy/index_en.htm https://wiki.p2pfoundation.net/From_Open_Data_To_Commons_Data https://opendatacommons.org/licenses/by/1-0/index.html https://www.slideshare.net/rgrossman/how-data-commons-are-changing-the-way-that-large-biomedical-datasets-are-analyzed-and-shared

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16. Community of practice (Commons + collaborative management) 10 hours (DigCompEdu 1.3; 1.4; 1.5; 3.3; 5.3; 6.1; 6.2; 6.4)		
Summary	*The motivation to participate in a CoP can include tangible returns (promotion, raises or bonuses), intangible returns (reputation, self-esteem) and community interest (exchange of practice related knowledge, interaction).* In this module we will explore Communities of *Practice (CoP)* as groups of people who share a craft or a profession. A lot of the theory behind the concept has been developed by educational theorist Etienne Wenger, while an important benefit to a CoP is the capture of tacit knowledge. Communities of practice are an important of initiating and establishing a commons culture. This module is set to show us, how this is already happening.	
Learning Objectives	▪ Provide background to CoP and their relation to Commons ▪ Recognize how CoPs is present in daily actions ▪ Understand the limits and challenges of initiating and gardening CoPs ▪ Studying specific initiatives and how CoPs play a role in them ▪ Get to know the tools that CoPs use ▪ Understand the social contracts behind CoP	
Learning Outcomes	1. Introduction to CoP: differences between CoP, communities of interest (CoI), Communities of Practice for Professionals and project teams	*1 hour*
	2. Where do we find CoP, how do they organize?	*1 hour*
	3. CoP in Commons	*1 hour*
	4. XES: the Solidarity Economy Network of Catalonia: Commons and CoP	*2 hours*

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<table>
<tr><td></td><td>5. Decidim: free open-source participatory democracy for cities and organizations</td><td>2 hours</td></tr>
<tr><td></td><td>6. Wikipedia and other FLOSS communities</td><td>2 hours</td></tr>
<tr><td></td><td>7. Build - garden - participate in a CoP : rules (Social contracts) and tools</td><td>1 hour</td></tr>
<tr><td>Teaching/Learning Activity</td><td colspan="2">▪ Workshops/webinars
▪ Online research
▪ Self-study
▪ Assignments and tasks
▪ Group exercises</td></tr>
<tr><td>Learning Contents</td><td colspan="2">▪ Videos/webinars
▪ Learning sheets
▪ Reading materials
▪ PPT
▪ Group discussions
▪ Feedback exercises (blobs trees, Dixit cards, etc.)</td></tr>
<tr><td>Assessment</td><td>▪ Attendance
▪ Participation
▪ Evaluation</td><td>Assessment Tasks:
▪ Assignments
▪ Ongoing evaluation
▪ Assessment (test/quizzes)</td></tr>
<tr><td>Key ideas</td><td colspan="2">▪ Documenting the beginning of communities, CoP and their practices
▪ Communities of Practice: myths and decisions
▪ Mapping networks, CoP tools and actions
▪ Law, responsibility and governance
▪ Technology and tools
▪ Content & Data (targeted and massive)</td></tr>
</table>

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To go further	On the trans-personal knowing process of thinking together in CoPs have a look on Polanyi M (1962a) Personal Knowledge, Chicago, IL: The University of Chicago Press. On CoPs and learning as a social system read the article of Etienne Wenger at https://thesystemsthinker.com/communities-of-practice-learning-as-a-social-system/ On a more radical approach regarding pluralism in Digital Communities enjoy Geert Lovink's inteview at http://networkcultures.org/geert/2018/11/01/pluralism-in-digital-communities/?pdf=1619

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17. E-learning with FLOSS tools **10 hours (DigCompEdu 1.1; 1.2; 1.3; 1.5; 2.1; 2.2; 2.3; 3.1; 3.2; 3.3; 3.4; 4.2; 4,3; 5.2; 6.2; 6.3)**		
Summary	*"One of the most important areas we can develop as professionals is competence in accessing and sharing knowledge." - Connie Malamed* The primary objective of this Module is to explore innovative teaching opportunities, supporting learners to discover the power of eLearning. The first part of the Module involves an introduction to eLearning (What is e learning; Methods of eLearning;How does it work?), the second part looks at the benefits it can provide for both learners and educators, especially for promoting online collaboration (eLearning platforms).	
Learning Objectives	▪ Provide background to eLearning ▪ Recognise the benefits in eLearning ▪ Discover the main Open Source Learning Management System: MOODLE ▪ Explore the Moodle community and discover the value of an open, collaborative effort by one of the largest open-source teams in the world ▪ Learn how to integrate Moodle can with online content resource repositories, course schedules etc. ▪ Explore methods of online collaboration in small-group activities to learn from each other and support an intentional communication culture	
Learning Outcomes	1.Describe the background, features and methods of eLearning	*1 hour*
	2. Recognize the main methods of eLearning	*1 hour*
	3. Increasing Engagement through eLearning Programmes	*1.5 hours*
	4. Create effective eLearning objectives	*1 hour*

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	5. Create your E-learning Team	*1.5 hour*
	6. Align eLearning to key performance outcomes	*1 hour*
	7.Explore the potential of eLearning as a tool for fostering online collaboration	*2 hours*
	8. Use MOODLE to work and learn together in forums, wikis, glossaries, database activities, and much more	*3 hours*
Teaching/Learning Activity	▪ Workshops/webinars ▪ Online researches ▪ Self-study ▪ Assignments and tasks ▪ Group exercises	
Learning Contents	▪ Videos/webinars ▪ Learning sheets ▪ Reading materials ▪ PPT ▪ Group discussions ▪ Feedback exercises	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ eLearning is learning utilizing electronic technologies to access educational curriculum outside of a traditional classroom. ▪ Besides being a powerful tool that can increase students' knowledge and performance, eLearning Platforms are crucial to promote online collaboration.	

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	▪ Moodle is a free, online Learning Management system enabling educators to create their own private website filled with dynamic courses that extend learning, anytime, anywhere - MOODLE
To go further	Advantages And Disadvantages Of eLearning Free and Free & Open Source Learning Management Systems The Design of Module Content for e-elearning practice Introduction to MOODLE Learn MOODLE Basics - Video MOODLE Teacher Guide

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18. Online entrepreneurship with FLOSS tools **10 hours (DigCompEdu 1.5; 2.1; 2.2; 2.3; 3.1; 3.3; 3.4; 5.2; 6.2; 6.3; 6.5)**		
Summary	*"You want to build something that people love. So start with roles that open source can play in your vision for the product, the distribution model, the community you want to build, and the business you want to build."* *Ian Tien, CEO of Mattermost* E-commerce is a growing sector, currently 90% of consumers in Europe first try and find a business by searching online. In Europe 16% of business sell online, and less than half of those do so cross border. This module looks to teach users the basic to start an online business, giving tools to set up a website and understand what's the best way to present your business online and manage it. In addition, the module will provide background to the principles of shared economy and what are the advantages of setting up a sustainable business.	
Learning Objectives	▪ Understand the concept of entrepreneurship and the difference with online entrepreneurship ▪ Learn how to plan your business ▪ Recognize the main tools for setting up an online business ▪ Explore FLOSS tools for the creation of digital content ▪ Understand the difference between blogs and websites ▪ Provide background for the use of open source CMS ▪ Provide background to shared-economy and sustainable businesses principles	
Learning Outcomes	1. Describe the main features of online entrepreneurship	*1 hour*
	2. Create your business plan	*2 hours*
	3. Planning and selection of digital content	*2 hours*
	3. Creating digital content	*2 hours*

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	4. Introduction to open source CMS (Drupal, WordPress)	*2 hours*
	5. Being able to recognize the main characteristics of shared-economy and sustainable businesses	*1 hour*
Teaching/Learning Activity	▪ Self-study ▪ Assignments and tasks ▪ Workshops	
Learning Contents	▪ Reading Materials ▪ PPT ▪ Videos/webinars ▪ Online courses	
Assessment	▪ Attendance ▪ Participation ▪ Evaluation	Assessment Tasks: ▪ Assignments ▪ Ongoing evaluation ▪ Assessment (test/quizzes)
Key ideas	▪ Online entrepreneurship can be a pathway to employment and FLOSS resources offers solutions to put a business online. ▪ Learn to manage digital content for your online business ▪ Identify the advantages of setting up a sustainable business	
To go further	https://www.wikihow.com/Become-a-Successful-Internet-Entrepreneur https://en.wikiversity.org/wiki/Internet_entrepreneur https://www.wikihow.com/Learn-About-Entrepreneurship	

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