IO1 Open-AE Curriculum

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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.
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Abstract

The Open-AE Curriculum is produced in the framework of the Open-AE Project, which is aimed at promoting open source technologies in non-formal adult education to support the digital upskilling of both educators and learners. Its aim is to build capacity of non-formal training organizations such as digital competence centers, to deliver high quality and relevant digital skills training to adults by improving staff competence on open source technologies. The project objective is to improve teaching and digital skills of e-facilitators through a modular blended course on open source technologies. Apart from the cross-cutting phases, namely Management, Dissemination & Exploitation, Quality Assurance & Evaluation, the project's core structure includes a research phase to establish a foundation for the development and contextualization of the Open-AE curriculum, the creation of the Open-AE Toolkit, the delivery of the training itself and the production of the Guidelines for transferability and up-scaling of results.

The Open-AE Curriculum is developed within the Intellectual Output 1 "Open-AE Curriculum", specifically devoted to the production of the Analysis Reports with elements arising from research in the four partner countries (Belgium, Italy, Switzerland and Spain), and addressing the non-formal Adult Education field. The Open-AE Curriculum is the last of the three deliverables scheduled within the IO1 and it is preparatory for the second one, the Open-AE Toolkit, since it outlines both the training program and the methodology to be used.

The first chapter of this document introduces the principles used to upscale the course curriculum and methodology. It also explains the added value of promoting open source technology in Adult Education and the use of OERs in teaching.

The second chapter mainly describes the organization of the training program and outlines the role of the trainers and their tasks in the different stages of the course.

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The third chapter presents the course layout and offers details for the various components of the training path (online, face to face training and final application); it also introduces the criteria to select teachers and trainers willing to benefit from the blended course.

The Open-AE Curriculum is a useful instrument for the partners since it sets and outlines the main steps linked to the training path and helps to advance their activities with a clear scope and meaningful instructions. In addition, it is useful for the potential course participants because it explains how the training works, in terms of engagement, duration, contents. Finally, it is relevant to the wider audience since it explains the experience of focusing on open technologies and resources in a structured way.

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1. Methodological framework

The Open-AE project "Promote Open Source Technologies in non-formal Adult Education", funded under the Erasmus+ Programme of the European Union (*Key Action 2 – Cooperation for innovation and exchange of good practices*) directly addresses adult trainers working in non-formal training sector to reinforce digital skills and competence needed by adult learners. Open-AE contributes to the development of e-facilitators competences to deliver high quality and relevant digital skills training to adult learners. Based on the results of the desk and field research in each partner countries, this curriculum builds upon the analysis of the existing training offers and available resources and open technologies on one side and the training need of trainers working in the field of Adult Education. The European Framework for the Digital Competence of Educators (DigCompEdu) will be adopted to develop the Open-AE course curriculum: it will be designed taking into consideration specific competences and areas of competences to match the training needs of the e-facilitators Open-AE offers an updated training path delivered in blended modality for adult trainers. The Open-AE course, " Pilot Open-AE blended course", will test the Open-AE Curriculum and online Toolkit with e-facilitators through a blended course (online and F2F) by involving them in practical project works on open source technologies. In addition, the course will ensure that the Open-AE training curriculum fits for purpose and has been adapted to meet each country's specific needs and context so that fs necessary the project partners will take action and amend it.

1.1.The course concept

The Open-AE Project envisages the structure of the training based on the Curriculum by focusing on specific features:

- the inclusion of relevant inputs from the existing training offers and available resources Analysis included on the IO1 Analysis report which summarizes the research results in the four partner countries (Belgium, Italy, Spain, Switzerland);

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- the inclusion of relevant inputs from the Training Needs Analysis included on the IO1 Analysis report which summarizes the research results in the four partner countries (Belgium, Italy, Spain, Switzerland);
- the updating of contents with references at advanced politics and international commitments;
- the focus on the most relevant competences and areas of competences as arisen in the research phase and indicated by the trainers involved in the focus groups;
- the organization of the course in blended modality with the inclusion of face to face sessions which should be practical and finalized to give the needed skills and competences to deal with open source technologies and OERs in adult teaching;
- the use of an online platform developed within IO2 Toolkit for the online part of the course;

1.2. Main findings from the Training Needs Analysis

The Analysis Report, developed by Associazione Centro Studi Città di Foligno in the framework of IO1 "Open AE Curriculum", was conducted via desk research and focus groups to verify the interest of teachers and trainers to join the Open-AE course and collect inputs to make the course more appealing and relevant for their learning needs. As detailed in the Analysis Report in the section focused on field research, all respondents showed a high interest in the project by highlighting their intent to actively participate. In order to better develop the Curriculum and consequently the Toolkit and the Course the focus group participants, trainers and stakeholders working in the field of Adult Education, provided some inputs in particular in relation to three fields: the state of the art in their field and daily work about open technologies and resources, their knowledge and expertise regarding open technologies and resources, the competences and area of competences they would like to improve using open technologies and resources. The main results, summarized in the figure below, constitute the base for outlining the Curriculum.

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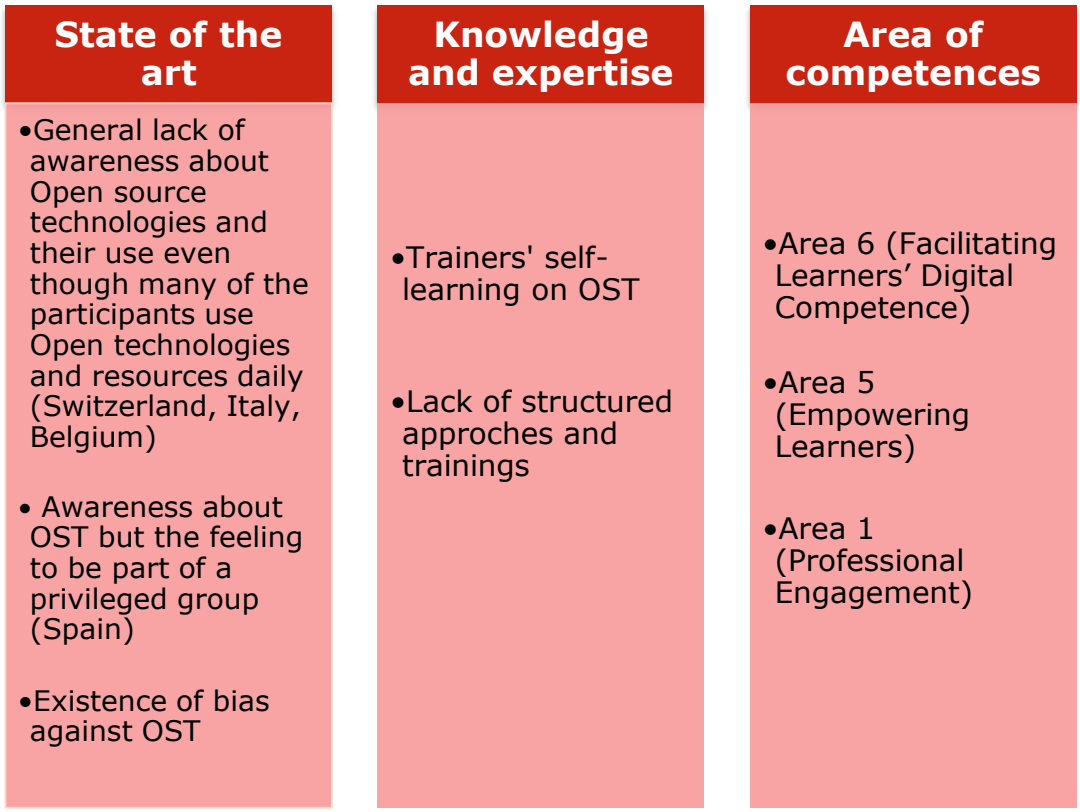

Figure 1. Inputs from Open-AE focus groups

During the interviews, teachers and trainers appeared to be open for cooperation and showed great interest for joining the project.

The above mentioned inputs have been assessed during the definition of the Course Curriculum with the intent to satisfy the requests of potential users and combine them with the specific features of online and the face to face activities. The following elements, arisen from the research phase, have been considered as relevant to finalize the Open-AE curriculum:

- Necessity of a structured course based on open technologies given the lack of structured training offers
- Inclusion in the curriculum of theoretical and policy framework of FOSS technologies given the general lack of awareness
- Provide background information on OERs, copyright, licenses
- Promote the use of open digital technologies to enhance inclusion
- Stimulate personalization and learners' active engagement

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- Enable learners to creatively and responsibly use open digital technologies for information, communication, content creation, wellbeing and problem-solving.
- Stimulate digital content creation through Open technologies
- Use Open digital technologies and resources for communication, collaboration and professional development.
- Enable trainers to use Open digital technologies to enhance organisational communication with learners and third parties
- Support trainers to use Open digital sources and resources for continuous professional development

1.3. Relevance of digital upskilling to Adult Education

In a digitally oriented society, 44% of the EU population are currently lacking basic digital skills despite digital literacy is acknowledged as a key life competence. The EC "Upskilling Pathways: New Opportunities for Adults" and "A new skills agenda for Europe" urge to up-skill and re-skill the European labour force with digital skills, to keep it productive in the jobs and support adults to acquire a minimum level of key competences.

According to the ALL DIGITAL annual survey 2017 conducted with 41 of its member organizations from different EU countries (involving almost 20.000 digital competence centers and directly engaging over 2 million users every year), the key challenges e-facilitators working with adult learners in non-formal learning contexts are currently facing are: 1) need of innovative approaches to develop digital skills – in view of the rapid change of technologies: more modular, user-centered and short-term training programmes focused on specific needs of users and taking into account mobile and open technologies; 2) need to focus on a new notion of digital skills, more focused on the development of different competences and not only linked to the use of a device or the access to internet; and 3) need to use standardized frameworks such as the DigComp. Digital competence centers are public places that provide non-formal training where people get access to technology and the Internet, acquire digital competences and keep up to date with technology and community developments.

The European Framework for the Digital Competence of Educators (DigCompEdu), published by the EC, describes what it means for

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educators to be digitally competent and provides a general reference frame to support the development of educator-specific digital competences in Europe. It details 22 competences, among them: organizing, sharing, publishing, creating and modifying digital resources; actively engaging learners through digital tools; facilitating learners' digital competence, etc. All these competences can be easily acquired through open source technologies. When a technology is referred to as "open source", it means that people can modify and share the code because its design is publicly accessible. These technologies combine the free availability of technical artefacts and information with powerful community based development and maintenance. They change the way we learn by fostering online communities, by enabling personalized learning experiences, by supporting the development of soft skills such as problem solving, collaboration and creativity, and by making learning fun. Open education has the potential to make educational systems more innovative and efficient and allows individuals to engage in new and more flexible ways of (lifelong) learning. These two components made of the integration of Open education into EU education systems a policy objective, as argued in the Opening Up Education Communication and the renewed priorities of ET2020 to provide "open and innovative education and training, including by fully embracing the digital era". Also, Open source technologies are being supported by the EC in the 2018 Digital Action Plan to promote accessibility in education. The following didactic principles will be taken into account in the design of piloting activities:

- **Collaborative learning**

In a learning process that takes place in an online environment, inter-linkages are easier than in regular distance education (and sometimes even more than in face to face interactions). Through the use of online discussions, through messaging and by developing assignments in a participatory way, the participants establish connections with each other through the available forms of communication, exchanging information, experience and support.

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- **Contextualized learning**

According to the contextual learning theory, meaningful learning occurs when learners process new information or knowledge in such a way that it makes sense to them in their frame of reference - their own inner world of memory, experience and response and also their exterior world, their environment and the setting where they are active.

- **Action learning**

Learners are offered different models and understandings of issues and challenged to apply the presented concepts to their own needs and contexts, developing their competences in a project-based course. This enables an active learning process linking the learners' previous experiences, the newly acquired knowledge and the learners' environment.

- **Project-based learning (PBL)**

The participants learn about a subject in the context of designing and producing tangible outputs making use of the knowledge and competences they acquire during the blended course. The emphasis of this concrete approach is on the products course participants should be able to deliver at the end of the course: the outcome of PBL being the upskilling of trainers who lately be able to exploit the new skills acquired in the field of Adult Education.

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2.Course organization

The Open-AE piloting course, entitled "Pilot Open-AE blended course", intends to upskill competences of teachers and trainers' working in the field of Adult Education. Before going in depth with the course contents and methodology, this chapter explains the underlying organization of the training path. The course is delivered in blended modality which means that a part is accessible online, through the Open-AE toolkit, and the other one is held in presence or via webinar.

The blended course lasts **60 hours**, broken down into **online learning (40 hours)** and **face to face training (20 hours)** that are delivered along 6 months.

Following the teachers and trainers' recruitment and registration phase in each partner country, Belgium, Italy, Spain and Switzerland (user requirements are detailed in the Chapter 3 of this document), the course opens via F2F meetings and the online toolkit. The meetings and the online contents cover the theoretical framework on FOSS technologies and resources and the main area of competences identified through the field research as interesting for trainers. The course is organized in different modules to be chosen and assembled by each partner organizations according to the needs and interests of their learners. The complete list of available modules and related information can be found in Annex A to this document. In section 3 below is presented the module layout and the list of titles and topics of each module.

At least **10 teachers/trainers per country**, for a total of **40** teachers/trainers**,** are engaged in the course.

Each modules ends with a test to assess the course participants' knowledge. The results are collected by tutors to give them the inputs to go in depth with certain topics by recommending links and OERs accessible. A final test is provided during the last week to ascertain the knowledge acquired by the course participants.

The online and F2F sessions are delivered simultaneously. Face to face sessions are expected to be practical and finalized to give the

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needed competences to improve trainers' skill on the topics, methodology and tools presented along the course.

2.1.Tutoring Activities

Throughout their training path, teachers and trainers are accompanied by the tutors who support them during the online and the face to face sessions. At least one tutor per organization should be involved in the course in each country.

The tutors selected for the Open-AE piloting need to be multifaceted with a range of skills varying from theoretical to technical ones. More in detail, they need to:

- be familiar with FOSS technologies theoretical and policy framework and know the content of each module;
- have training competences, both in presence and at distance;
- have communicative competence;
- possess intermediate ICT skills

Before acting as a tutor for the course, each of them will benefit from a training session in Barcelona and some specific guidelines to go in depth with the course objectives, the methodology proposed and instructions on how to perform the various tasks during the different stages of the course.

In principle, the tutor's role covers the following:

- **During the online learning,** giving the course participants the main instructions to enter and benefit from the online toolkit, collecting requests of information and producing FAQ together with the other tutors, monitoring the participation to the online platform, moderating cooperative activities, collecting results from the tests and give recommendations, collecting results from the final test;
- **During the face to face session**, support the learners during the PBL activities, deliver workshops/classes on the basis of the curriculum content.

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3. Course Layout

This chapter provides a comprehensive outlook of the training path by explaining each single component in terms of methodology, learning objects and timing and by explaining the requirements to attend to the course. The Open-AE piloting course, entitled "Pilot Open-AE blended course", intends to upskill competences of teachers and trainers' working in the field of Adult Education.

3.1. The blended course

The students can benefit from the toolkit accessible through platform. The overall path lasts **60 hours**, which also includes the evaluation tests. As anticipated, the Open-AE training is organized in different modules that each organization should assemble together so to compose the 60-hour course. We developed 18 modules, each one focused on a particular subject and designed to require around **8-12 hours**' study.

3.1.1. The Open-AE Modules

The tables below show the structure we used to build a module and below is reported the full list of modules. The detailed description of each module is reported in Annex A to this document. Each module has specific learning objectives and learning outcomes and comprehends a set of activities (individual or cooperative) and specific training contents mainly consisting of video, readings, PPT, guidelines and tests. Here below you can find the training scheme outlining each module with reference to: topics, learning objective, learning outcomes, learning activities and content, assessment methodologies, key ideas, further material.

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MODULE X **Title** hours of study (DigCompEdu mapping)		
Summary		
Learning Objectives	▪ ▪ ▪	
Learning Outcomes	1.	*hours*
	2.	*hours*
	3.	*hours*
Teaching/Learning Activity	▪ ▪ ▪	
Learning Contents	▪ ▪ ▪	
Assessment		
Key ideas		
To go further		

Table 1. Structure of the Open-AE modules

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The 18 modules designed by the Open-AE partnership intend to cover the largest scope possible within the FLOSS culture taking into account the results emerging from the research. The modules' content will be designed not only to provide learners with the practical knowledge and skills allowing them to make use of open tools and resources but also to give learners an overview and a deeper understanding of what the FLOSS movement, where is standing nowadays, how to contribute to its development and what are the benefits for trainers and their organizations.

The list of modules does not follow a logical order and they are presented here in three macro areas; it will be in the interest of each organization to choose the most relevant modules for the trainers involved in the course.

- **Theoretical framework**

1. DigCompEdu framework for a common and opener education
2. Theoretical, historical and political framework of FLOSS technologies & resources
3. The emergence of copyleft and free licences
4. Data privacy culture
5. FLOSS skills for employment

- **Tools**

6. Open operating system as a transition to FLOSS: Linux
7. Open coding with Scratch
8. Open robotics with Arduino
9. 3D printing
10. E-learning with FLOSS tools
11. Wikidata
12. Slidewiki

- **Methodology & strategies**

13. Flipped classroom / project based-problem based learning and peer review methodology
14. Digital storytelling for learners' empowerment
15. Intentional communication for civic empowerment and community engagement
16. How to run a Fab Lab
17. Online entrepreneurship with FLOSS tools
18. Commons and collaborative management: building a community of practice

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3.2.Participation requirements

Regarding the online component of the course, being the online platform/toolkit open to all by definition, some recommendations are provided for the Open-AE course participants in order to maximize their learning opportunity. They should:

- be trainers working in the field of Adult Education in non-formal sector;
- have a computing device with internet connectivity;
- possess digital competences at an Intermediate level
- act as independent and active learners.

3.3.Certificate of attendance

A certificate of attendance is awarded to trainers participating in at least 75% of the activities and who are able to demonstrate the acquired competences taking the tests and delivering the outcomes requested by the PBL activities.

The certificate is issued to all trainers who actively participated in the course, by carrying out both individual and cooperative activities. In addition, they should have carried out the assessment proofs after each module and at the end of the path.

The assigned tutors are responsible for monitoring and recording the activities of course participants both in presence and at distance.

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