



Digital Competences Development System (DCDS)

ALL DIGITAL

ALL DIGITAL Summit Bologna

11 October

2019

#DCDS #DigitalCompetences

DCDS Presentation

- Project introduction
 - Peter Palvolgyi, ALL DIGITAL
- DCD Methodology
 - Stefano Kluzer, AECA
- DCD Environment, DCD System as a whole
 - Achilles Kameas, HOU

Project info

- **Project title:** Digital Competences Development System
- **Funding Programme:** ERASMUS+ of the European Union KA3 Forward-Looking Cooperation Projects
- **Duration:** 24 months (from Jan 2018 until Dec 2019)

DIGITAL
COMPETENCES
DEVELOPMENT
SYSTEM

ENHANCING
DIGITAL SKILLS
ACROSS EUROPE
ALL
DIGITAL

Partnership



LIKTA
LATVIAN INFORMATION
AND COMMUNICATIONS TECHNOLOGY
ASSOCIATION

eos
FUNDATIA EOS ROMANIA

ea
ea
ea
EUROPEAN ASSOCIATION FOR
THE EDUCATION OF ADULTS

CENTRO STUDI
CITTÀ DI FOLIGNO

fundaciónesplai
ciudadanía comprometida

aecca

Rationale behind DCDS

DCDS designed, developed and tested an integrated modular system, **mapped to DigComp 2.1**, to **assess, develop and validate** basic digital and transversal skills of adults with low digital skills.

Specific Objectives

- **Improve** basic digital & transversal competences of digitally **low skilled adults** in a blended learning approach
- **Support training providers** in planning and delivering flexible and modular training offers
- **Empower policy-makers** and **key stakeholders** from different fields in formulating integrated policies
- **Collect and analyse evidence** to validate innovative policies and practices

Key Results

- Digital Competences Development Methodology
- Digital Competences Development Environment
- Piloting & Evaluation Report
- Policy Influence Kit
- Policy Recommendations

Pilot Results

- DCDS was tested in **5 countries** through a blended learning approach
- **176 participants** from different target groups completed the course
- **13 trainers** were involved

DCDS pilot evaluation demonstrates the growth of **skills** and **self-confidence** of the target audience.

From the field

The course helped me to stabilize some knowledge, become more decisive when using the computer, and **organize better my work duties.** Trainee from **Greece**



DCDS has been a very enjoyable experience. Now I feel **able to use Internet resources** in my work and in my personal life. Also, jobs involving digital skills are well paid. This course was very welcome!
Trainee from Romania

From the field

I've gained understanding of how digital solutions can be useful in everyday life. Now I can better work with different programs, search the Internet and even shop online. After attending training, **I feel more confident** working with my computer.

Trainee from Latvia



“The part I most appreciated **was distance learning**, because it was a new, challenging and satisfying experience. **Working in groups** with my classmates was also important, because we shared insights and supported each other”

Trainee from Italy



Find out more

- Project website: www.dcds-project.eu
- DCDE platform: digitalcompetences.eu
- #DCDS #DigitalCompetences
- #AllDigitalEU



Presentation of DCD Methodology

STEFANO KLUZER

All Digital Summit- Bologna, Italy

October 11, 2019

DigComp

5 competence areas

21 competences



COMPETENCE AREAS	COMPETENCES
1. Information and data literacy	1.1 Browsing, searching and filtering data, information and digital content 1.2 Evaluating data, information and digital content 1.3 Managing data, information and digital content
2. Communication and collaboration	2.1 Interacting through digital technologies 2.2 Sharing through digital technologies 2.3 Engaging in citizenship through digital technologies 2.4 Collaborating through digital technologies 2.5 Netiquette 2.6 Managing digital identity
3. Digital content creation	3.1 Developing digital content 3.2 Integrating and re-elaborating digital content 3.3 Copyright and licences 3.4 Programming
4. Safety	4.1 Protecting devices 4.2 Protecting personal data and privacy 4.3 Protecting health and well-being 4.4 Protecting the environment
5. Problem solving	5.1 Solving technical problems 5.2 Identifying needs and technological responses 5.3 Creatively using digital technologies 5.4 Identifying digital competence gaps

From DigComp competences to learning outcomes

DigComp 2.5 Netiquette

To be aware of **behavioural norms and know-how** while using digital technologies and interacting in digital environments.

To **adapt communication strategies** to the specific audience and
... to be aware of **cultural and generational diversity** in digital environments.

How does this translate into an **observable behaviour** that indicates the existence of related skills, knowledge and attitudes? -> **Learning outcomes (LOUTs)**

DCDS identified **95 LOUTs at foundation level**

LOUTs for self-assessment test

SELF-ASSESSMENT TEST (SAT) on all 21 DigComp competences

- self-assessment questions on almost all LOUTs
- 41 knowledge and ability questions to check key skills/knowledge

Recommender tool suggests learning path (LP) based on SAT results + learner profile

LOUTs for training design

95 LOUTs -> addressed by **64 LEARNING UNITS**

Set of educational activities sufficient to generate the achievement of one or several LOUTs belonging to a given competence

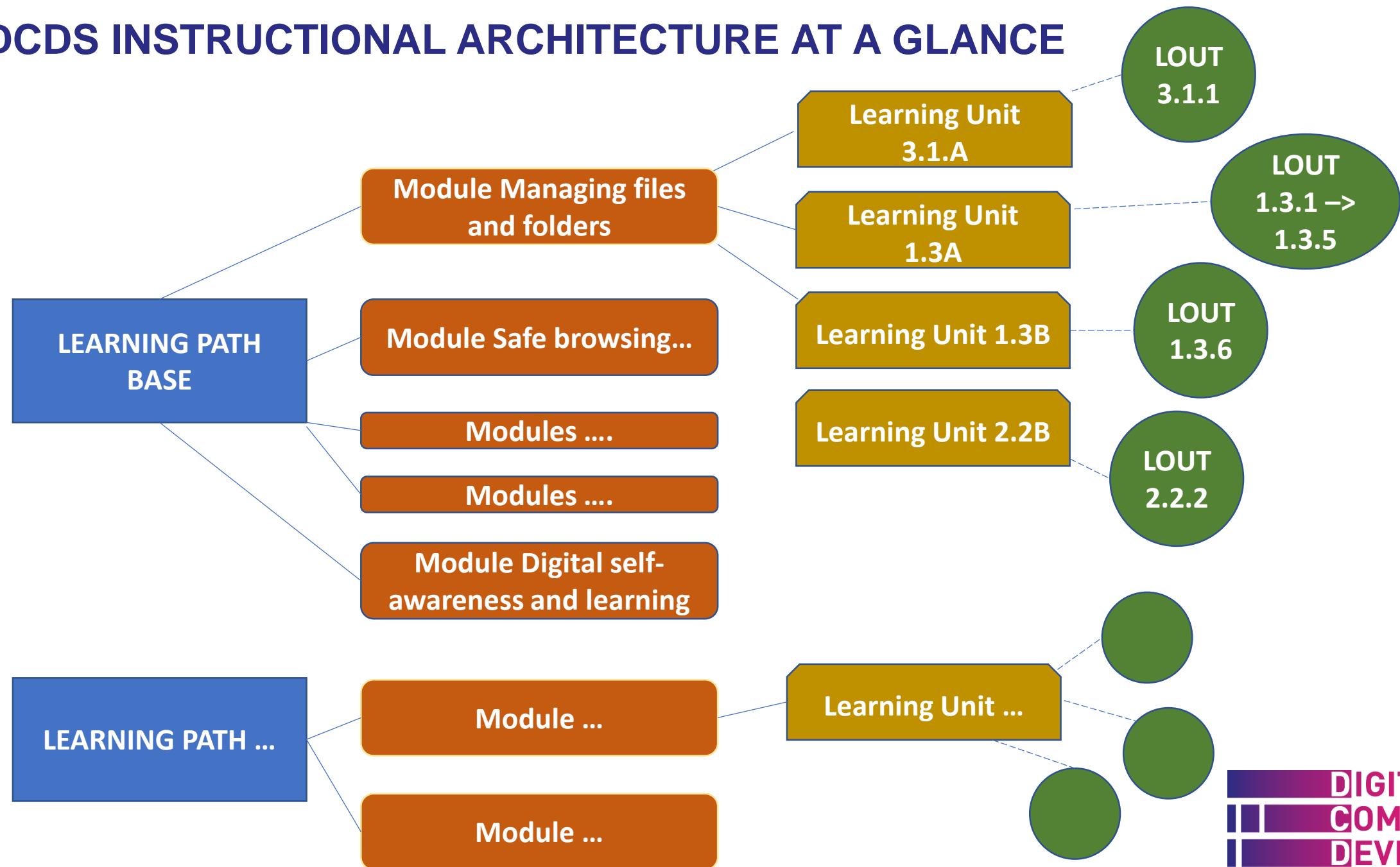
LEARNING UNITS are organized in **19 thematic MODULES**

Set of learning units belonging to a relevant digital topic (e.g. Files and folders management or Creating an account and using e-mail safely)

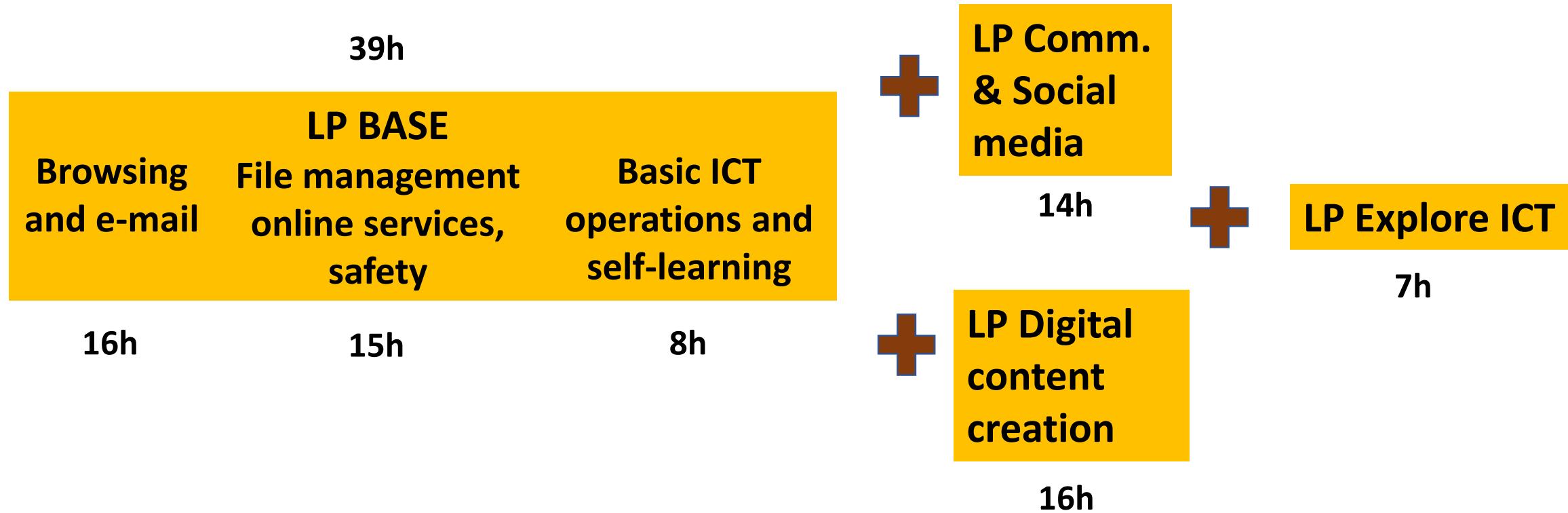
MODULES are combined into **6 LEARNING PATHS**

Training offer to develop sufficient skills to manage a digital environment or scenario

DCDS INSTRUCTIONAL ARCHITECTURE AT A GLANCE



DCDS FOUR LEARNING PATHS



Total estimated/optimistic delivery time (off/online) = approx. 60 hours

Blended learning in DCDS

Project goal: 40 h. face-to-face + 20 h. distant learning

Why not all distant learning?

- potential DCDS users are people with low digital skills (unfamiliar with...)
- who need/prefer direct contact with teacher/tutor
- (often) also with low autonomous learning capacity

Why some distant learning?

- Flexible delivery and individualised learning
- Gain additional study time ('homework')
- Opportunities to learn/practice digital skills
- Learn to use digital learning opportunities

Learning materials on the DCDE platform

A minimum 'common learning path' (core content) made of:

for each Learning Unit/related to LOUTs

- Reading materials on **Key topics**
- 1 to 3 **Learning quizzes** and **Practical exercises** in preparation for ...

in each module a **Summative Test**

Teachers can add **auxiliary materials**

DCDS validation badges

MODULE Badge: issued subject to the outcome of Summative test (>60% score)

LEARNING PATH Badge: issued after passing all Module tests belonging to the LP

COMPETENCE Badge: issued after passing all LUs/Modules related to a given competence (possibly also in different LPs)



**LP BADGE
BASE**



**LP BADGE
COMMUNICATE**



**LP BADGE
CREATE**



**LP BADGE
EXPLORE**

Presentation of DCD Environment

**Achilles Kameas
Hellenic Open University**

All Digital Summit - Bologna, Italy

October 11, 2019

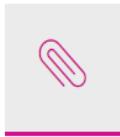
Welcome to Digital Competences Development System

DCDS, the Digital Competences Development System, was developed to help you improve your digital competences and validate them on the basis of European competence frameworks. DCDS supports you in self-assessing your digital competences and identifying shortages and gaps. It brings you in contact with tutors and training centres to facilitate you in closing the gaps and improving your competence profile. It offers you access to blended courses that combine face to face training and use of online training platform. It provides a mechanism that validates your achievements using online badges which you can download in your computer and add to your profile. You can also receive a Europass CV supplement!

DCDS consists of:

- **DCDM, the Digital Competences Development Methodology**, that supports the development of digital competences and related transversal competences of adults
- **DCDE, the Digital Competences Development Environment**, an online platform that implements DCDM by offering a collection of tools and services

DCDS has been developed in the context of DCDS project. It's really important and must be noted that DCDS is completely aligned to DigComp 2.1, the European Digital Competence Framework for Citizens. DCDE has been developed using Open technologies. The structure of courses is based on competences. The education and validation approaches are based on learning outcomes.



Find out more about DCDS project



Review DigComp v.2.1



Go to DCDE

Σύνδεση

Όνομα χρήστη

test

Κωδικός πρόσβασης

.....

Να αποθηκευτεί το όνομα χρήστη

Σύνδεση

Σηκωθετε το όνομα χρήστη ή τον κωδικό πρόσβασης;

Τα cookies πρέπει να είναι ενεργοποιημένα στον περιηγητή σας. [?](#)

<https://digitalcompetences.eu/>

DIGITAL
COMPETENCES
DEVELOPMENT
SYSTEM

Dashboard

Profile Badges Self-Assessment Learning Paths Play

Main functionality menu

Welcome to the DCDS online learning platform!

The DCDS courses aim to help you develop your digital skills. They are delivered by classroom to you and your colleagues. The total duration of the face-to-face classes is about 40-hours.

This platform has been designed to help you practice the use of an online environment and to support the courses. It offers:

- a self-assessment tool (Self-assess) to be used before starting the courses
- the learning paths (Learn) where you will find study materials that integrate and complement what the teacher will explain and ask you to do in each lesson
- exercises and tests that you can do on your own, or when the teacher will ask you to
- a collector of the badges (Badges) that you will earn by passing the tests at the end of each module
- tools to communicate online (Connect) with the teacher and your colleagues.

Enjoy your experience!

My Learning Paths

Learning Paths

Modules

Self-Assessment

Learning Paths

Level up!

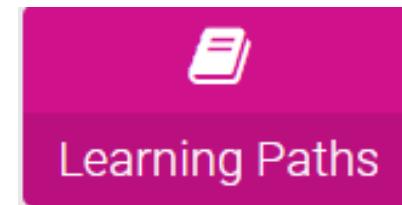
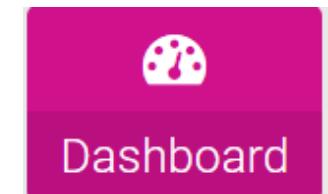
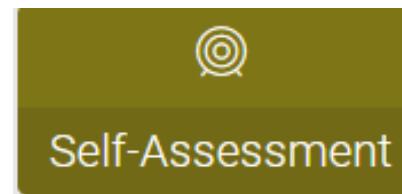
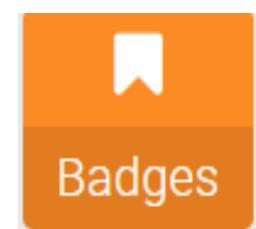
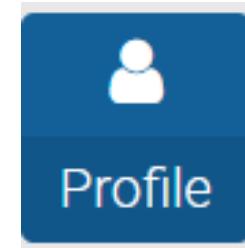
100% 240% to go

RECENT REWARDS

5% Quiz attempt submitted 5% Quiz attempt submitted

Info

DCDE dashboard



Self Assessment Tool

 1.1 Browsing, Searching and Filtering	 1.2 Evaluating data and information	 1.3 Managing data, information and digital content	 2.1 Interacting through digital technologies	 2.2 Sharing through digital technologies
 2.3 Engaging in citizenship through digital technologies	 2.4 Collaborating through digital technologies	 2.5 Netiquette	 2.6 Managing digital identity	 3.1 Developing digital content
 3.2 Integrating and re-elaborating digital content	 3.3 Copyright and licenses	 3.4 Programming	 4.1 Protecting devices	 4.2 Protecting personal data and privacy
 4.3 Protecting health and well-being	 4.4 Protecting the environment	 5.1 Solving technical problems	 5.2 Identifying needs and technological responses	 5.3 Creatively using digital technologies
 5.4 Identifying digital competence gaps				

DCDE includes two types of assessment questions:

- *Proper Self-Assessment questions (SAs) through the Self-Assessment (SA) test, where learners are asked to assess their own proficiency in a given area, and*
- *Knowledge & Ability questions (KAs) through the Knowledge and Ability (KA) test, where they have to give the correct answer and prove their knowledge.*

2.3 Engaging in citizenship through digital technologies

SA "Engaging in citizenship through digital technologies"

KA "Engaging in citizenship through digital technologies"

Not available unless: The activity **SA "Engaging in citizenship through digital technologies"** is completed

Quiz navigation

1 2 3

[Finish attempt ...](#)

SAT Completion Progress



KA "Managing data, information and digital content"

Completed (achieved pass grade) 

First name / Surname	Demy Vi	SA "Browsing, Searching and..."	KA "Browsing, Searching and..."	SA "Evaluating data and..."	KA "Evaluating data and..."	SA "Managing data,..."	KA "Managing data,..."	SA "Interacting through..."	KA "Interacting through..."	SA "Sharing through digital..."	KA "Sharing through digital..."	SA "Engaging in citizenship..."	KA "Engaging in citizenship..."	SA "Collaborating through..."	KA "Collaborating through..."	SA "Netiquette"	KA "Netiquette"	SA "Managing digital identity"	KA "Managing digital identity"	SA "Developing digital..."	KA "Developing digital..."	SA "Integrating and..."	KA "Integrating and..."	SA "Copyright and licences"	KA "Copyright and licences"	SA "Programming"	KA "Programming"	SA "Protecting devices"
		<input checked="" type="checkbox"/>																										

[Download in spreadsheet format \(UTF-8 .csv\)](#)

[Download in Excel-compatible format \(.csv\)](#)

SA "Evaluating data and information"

SA-Q. 1.2 - We ask you to evaluate how do you detect the reliability of sources, data, information that you find on the internet. We will list some activities below and you have to grade each one of them using the following scale:

Question 1

Not yet answered

Marked out of 1

My ability to evaluate whether information or content that I find online are reliable or not is:

Select one:

- I have no skills at all
- My skills are very poor
- I have sufficient skills to operate on my own
- I have some skills, but not sufficient to operate on my own

Question 2

Not yet answered

Marked out of 1

My ability to differentiate the official website of a service or product provider from other non-official websites is:

Select one:

- I have no skills at all
- My skills are very poor
- I have sufficient skills to operate on my own
- I have some skills, but not sufficient to operate on my own



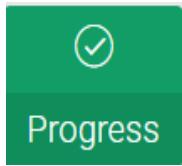
Recommender

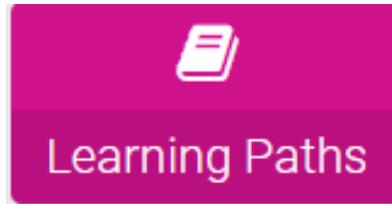
Groups: All participants

You can enrol/unenroll learners to/from Learning Paths only if he/she has completed the Self-Assessment.

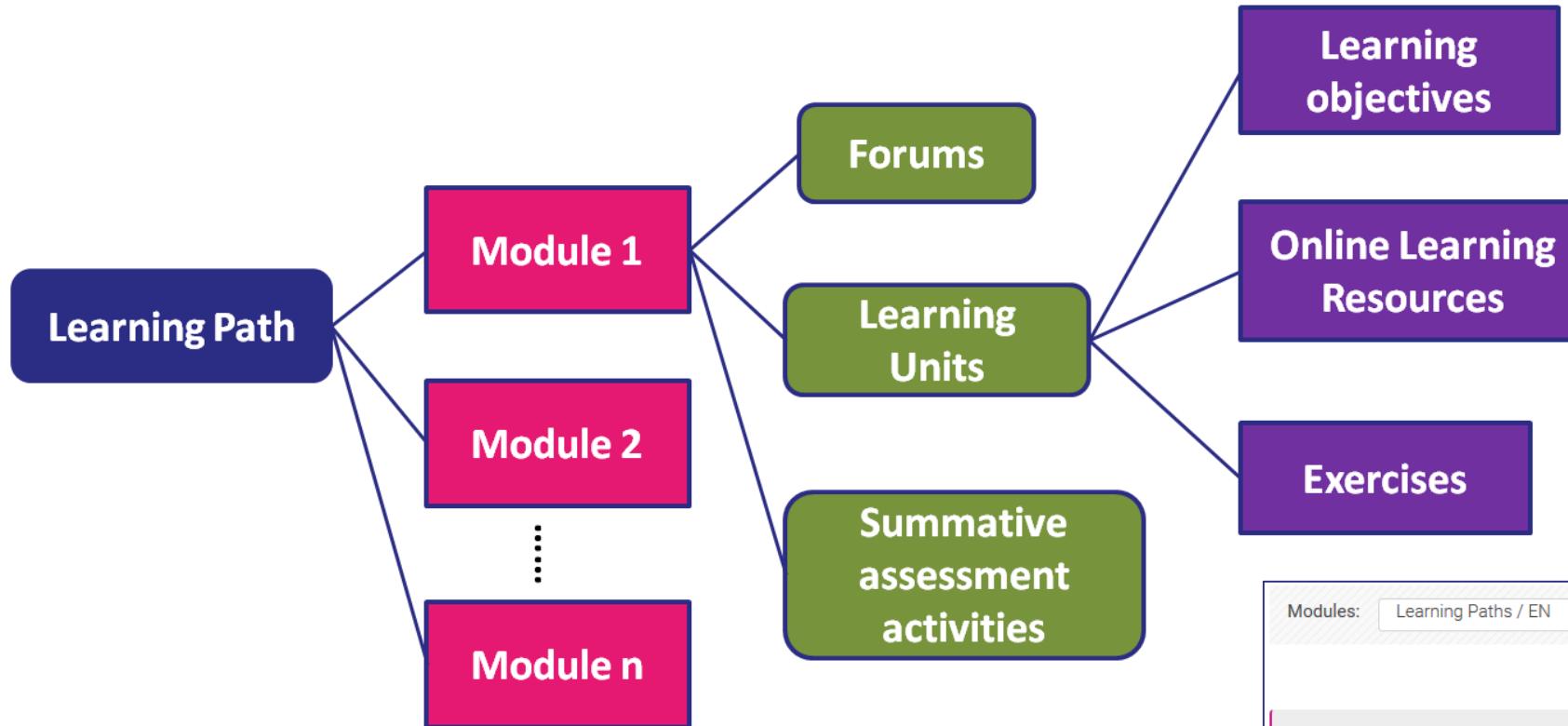
Learner	Completion Status	LP Base need	LP Comm need	LP Content need	LP ICT need
STD DEMO	Completed	100% (Enrol)	80% (Enrol)	95% (Unenroll)	90% (Enrol)
STD DEMO 1	Completed	93.33% (Unenroll)	85% (Enrol)	80% (Enrol)	90% (Unenroll)
TUT DEMO 1	Not completed yet (Complete now)	93.33%	80%	80%	80%
STD DEMO 2	Not completed yet (Complete now)	93.33%	80%	80%	80%

Recommender





Learning paths



Learning paths

 **My Learning Paths**

▼ **Modules**

-  Self-Assessment
-  Learning Paths

 **My Learning Paths**

▼ **Base**

-  Managing Files and Folders
-  Safe Browsing and Aware Info Search
-  Creating an Account and Using E-mail Safely and Correctly
-  Learning about Public and Private Online Services

Learning



Software Overview

After studying this material, you will be able to

1. Identify (through their icons) and describe the purpose/basic functionality of commonly used software applications

Online Learning



Key concepts for Software Overview

Exercises



Learning Quiz

Introduction

Welcome to the Module Protecting Devices, Data, Health and Well-Being

 Announcements

 Forum for "Protecting Devices, Data, Health and Well-Being"

Learning Units      Summative 

Hardware Risk

After studying this material, you will be able to

1. Describe risks and threats for my digital device (hardware breakdown, physical impacts, human error etc.) and their potential consequences

Online Learning

 Key concepts for Hardware Risk

Exercises

 Learning Quiz: Describe the risks of your device

 Student report "Describe the risks of your device"

 **Level up!**

 1

48 xp

202 xp to go

RECENT REWARDS

3 xp	Game viewed	1d
3 xp	Game viewed	1d
3 xp	Προβολή αρθρώματος μαθήματος	1d

 Info

Exercises



Learning Quiz



Practical Exercise: Managing files and folders



Student report "Managing files and folders"

Click to start the quiz report

Click to read the exercise

**Click to answer the
questions and submit
answers or assignment**

Learning Units

1

2

3

4

Summative

...



Assessment

Icons

Question 1

Not yet answered

Marked out of 18.0

 Flag question

 Edit question

Look at the left column below: in each row, there is only one icon with the file format that can be opened by the application on the right column. For each row on the left, identify the correct file icon and drag and drop it into the appropriate applications on the right



Learning Quiz

Attempts: 6

▼ Collapse all

What to include in the report

Attempts from: enrolled users who have attempt

Attempts that are: In progress Overdue Finished Never submitted Show at most one finished attempt per user (Highest grade)Show only attempts: that have been regraded / are marked as needing regrading

Display options

Page size: 30

Show report

Regrade all

Dry run a full regrade

Showing graded and ungraded attempts for each user. The one attempt for each user that is graded is highlighted. The grading method for this quiz is Highest grade.

Reset table preferences

Download table data as: Comma separated values (.csv)

Download

First name / Surname	Email address	State	Started on	Completed	Time taken
 Pinco Palla Review attempt	s.kluzen@croitilia.it	In progress	6 April 2019 12:57 PM	-	-
 Demy Vi Review attempt	demy@gmail.com	In progress	6 April 2019 4:13 PM	-	-
 STD DEMO Review attempt	pandreas82@gmail.com	In progress	17 April 2019 4:28 PM	-	-
Overall average					



Select all / Deselect all

Regrade selected attempts

Delete selected attempts

Assessment (teacher)

Student report "Managing files and folders"

Overview

Analysis

Show responses

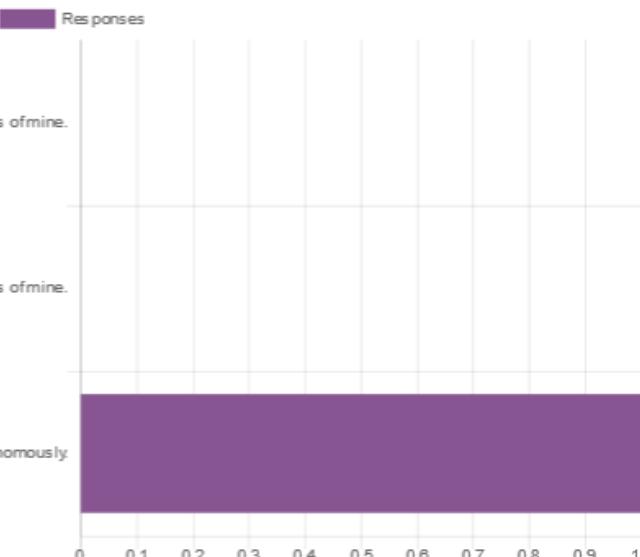
Show non-respondents

Export to Excel

Submitted answers: 2

Questions: 1

Choose the option that best describes your behaviour during the exercise you have just completed.



Show chart data

I have performed the tasks or parts of them with the systematic help of the teacher or other colleagues of mine.

Responses
0

I have performed the tasks or part of them with some intervention by the teacher or other colleagues of mine.

Responses
0

I have performed the tasks autonomously.

Responses
1 (50.00 %)

◀ Practical Exercise: Managing files
and folders

Jump to...

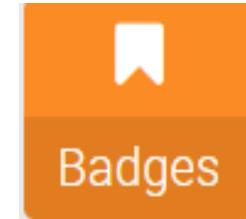


Key concepts for Compressed Files /
Folders ►

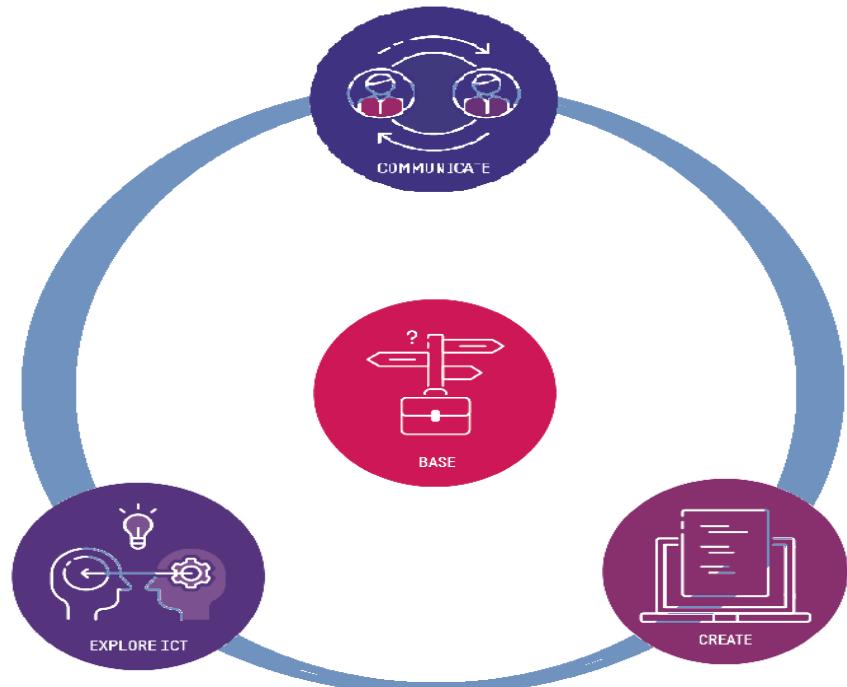
Assessment (teacher)

Grading (teacher)

Select	User picture	First name / Surname	Email address	Status	Grade	Edit	Last modified (submission)	Online text	File submissions	Subm comm
<input type="checkbox"/>		Student Demo	pandreas@ecomet.eap.gr	Submitted for grading	Grade	Edit ▾	Thursday, 11 April 2019, 5:06 PM			
<input type="checkbox"/>		STD DEMO	pandreas82@gmail.com	Draft (not submitted) Graded - follow up submission received	Grade 54.00 / 54.00	Edit ▾	Tuesday, 9 April 2019, 5:18 PM			
<input type="checkbox"/>		Spiros Borotis	borotis@daissy.eap.gr	No submission	Grade	Edit ▾				
<input type="checkbox"/>		David Ford	david.ford@eos.ro	No submission	Grade	Edit ▾				
<input type="checkbox"/>		Elev Silitor	elev.test@eosro.info	No submission	Grade	Edit ▾				
<input type="checkbox"/>		Studenta Silitoare	studenta.silitoare@eosro.info	No submission	Grade	Edit ▾				
<input type="checkbox"/>		Pinco Palla	s.kluzer@crcitlia.it	No submission	Grade	Edit ▾				
<input type="checkbox"/>		Victorita Popescu	Victorita@yahoo.com	No submission	Grade	Edit ▾				
<input type="checkbox"/>		Dace	b_dace@inbox.lv	No	Grade	Edit ▾				



Badges



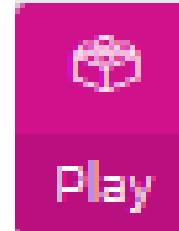
Path

Module



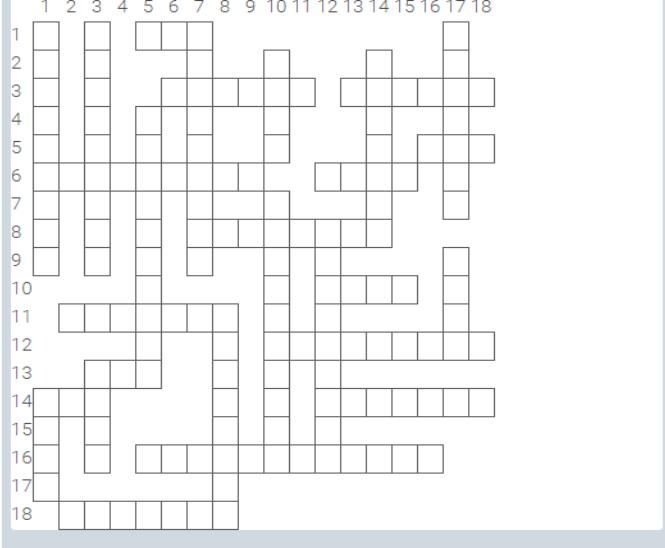
Games

-  Crossword based on Critical Words
-  Cryptex game based on critical words



Games

Grade 0 %



Welcome!
Click on a word to begin/continue.

Check crossword End of crossword game Print

Across

1: The Portable Document Format ([PDF](#)) is a [file](#) format developed by Adobe in the 1990s to present documents, including text formatting and images, in a manner independent of [application](#) software, [hardware](#), and operating systems, through the use of the [Adobe Reader](#). A full version of Adobe Acrobat is required to [edit a PDF file](#), otherwise the [file](#) is read-only. In many applications today (Microsoft Office, Open Office and others) files can be saved to [PDF](#) format, so for example, a text document can be saved in [PDF](#) format and then viewed on an Android smartphone.

3A: A [cookie](#) is a small text [file](#) (up to 4KB) created by a website that is stored by the [browser](#) in the user's device either temporarily for



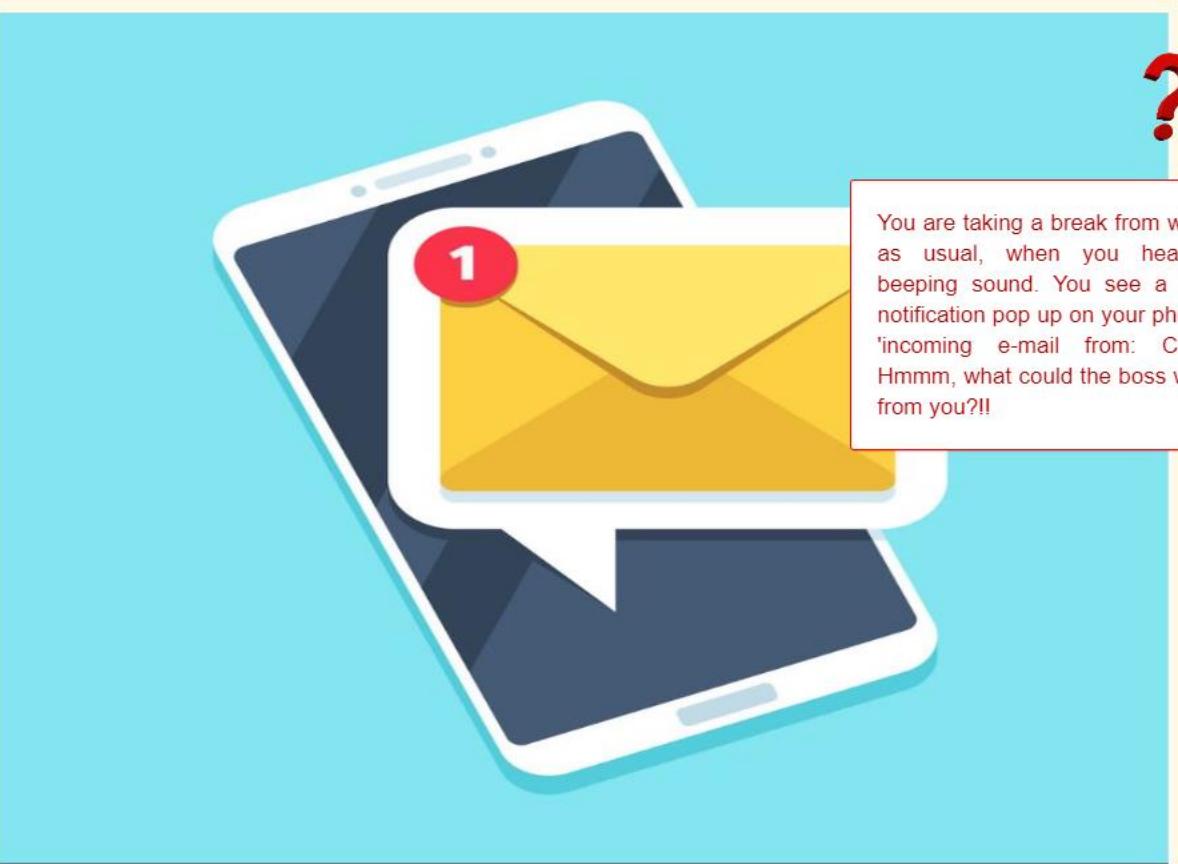
Username: ?> | Score:

Mission 1 Mission 2 Mission 3 Mission 4 EXIT

POINT & CLICK

WELCOME TO DCDS GAME™

NEXT ➔



You are taking a break from work, as usual, when you hear a beeping sound. You see a little notification pop up on your phone: 'incoming e-mail from: CEO'. Hmm, what could the boss want from you?!!

NEXT 



Games



NEXT



Games

The image shows a screenshot of an Ubuntu desktop environment. A prominent message box in the center-left displays the Firefox logo and the text: "Firefox is a free and open-source web browser developed by the Mozilla Foundation. Well done!" Above this message box, there is a small icon of a playing card and an Amazon logo. The desktop background is dark red, and the Unity interface is visible with various application icons. A red question mark icon is located in the top right corner of the desktop. At the bottom of the screen, there is a navigation bar with buttons for "Frequent" and "All". A red "NEXT" button with a white arrow is located at the bottom center of the image.

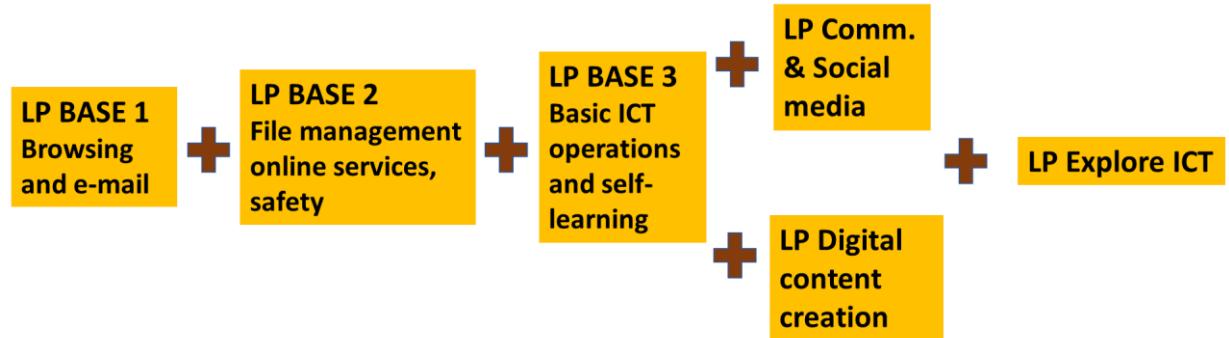
DCDS – The system

- **DCDM**
- **DCDE**
- **Handbooks**
 - **For learning provider**
 - **For trainer**
- **CV supplement for trainee**



DCDM – The methodology

- **Adopts DigComp 2.1**
- **Based on learning outcomes**
- **Uses online learning material**
- **Includes self-assessment and assessment**
- **Implements blended learning**
- **Supports learning paths**
 - **BASE**
 - **ALT**
- **Awards online badges**



DCDE – The platform

- SAT
- Recommender tool
- Online learning environment
 - Embedded learning content
 - Auxiliary content
 - Game-like content
 - Badges
- Communication tool
- Moodle based

Completion Progress

Overall progress % 17

Information and data literacy Communication and collaboration Digital content creation Safety Problem solving Completed Successfully All

Mouse over or touch bar for info.

Module	Progress	Image
1.1 Browsing, Searching and Filtering	1/2	
1.2 Evaluating data and information	0/2	
1.3 Managing data, information and digital content	0/2	
2.1 Interacting through digital technologies	0/2	
2.2 Sharing through digital technologies	0/2	
2.3 Engaging in citizenship through digital technologies	0/2	
2.4 Collaborating through digital technologies	0/2	
2.5 Netiquette	1/2	
3.1 Using digital technologies for safety	0/2	
3.2 Using digital technologies for problem solving	0/2	
3.3 Using digital technologies for communication	0/2	
3.4 Using digital technologies for information and data literacy	0/2	

Grade item	Grade	Range	Percentage
■ Self-Assessment Tool EN			
<input checked="" type="checkbox"/> SA "Browsing, Searching and Filtering"	1	0-8	13 %
<input checked="" type="checkbox"/> KA "Browsing, Searching and Filtering"	0	0-5	0 %
<input checked="" type="checkbox"/> SA "Evaluating data and information"	1	0-4	25 %
<input checked="" type="checkbox"/> KA "Evaluating data and information"	2	0-2	100 %
	3	0-1	0 %



Ideas for exploitation

- Take-up integrated DCDS and adapt to national context
- Adopt methodology
- Reuse content items (e.g. assessment quizzes)
- Add new content (embedded, auxiliary)
- Extend to higher DigComp competence levels
- Add / re-compose new learning paths (e.g. browsing and email, safety and security)
- Use tools independently (e.g. SAT)
- Add new tools (e.g. games)
- Give policy recommendations (e.g. to stakeholders / policy makers)

THANK YOU!