Transferability Guide

Part A

CICERO
Enhancing Digital Competence through Photography

CICERO Erasmus+ Project
2018-1-SE01-KA204-039051

Co-funded by the
Erasmus+ Programme
of the European Union

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1 The Innovative Approach

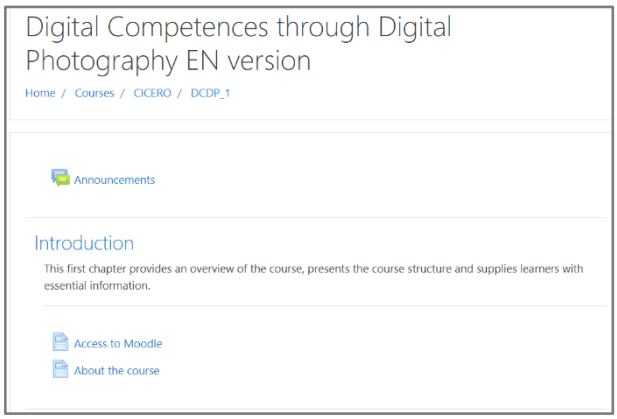
The CICERO Course about digital photography aims to teach the participants digital competences. This course follows the Flipped Learning 3.0 approach (as developed by Jon Bergmann). Nevertheless, the course is a Blended Learning course that might be used as a distance learning course as well.

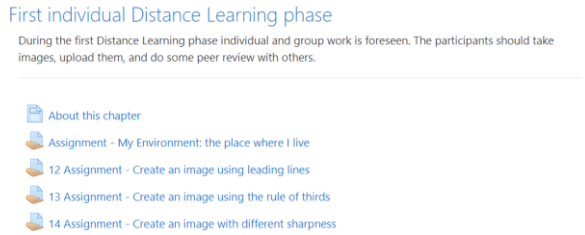
The approach to the learning process and the provides training means basically competency based Blended Learning, where theoretical knowledge is conveyed in modern onsite teaching (using an active teaching approach), while various hands-on activities will be performed by the learners independently (distance learning). Distance learning will focus on the practicing images, and the practicing of digital competences.

The innovative element is the approach to teach digital competences. Digital photography (arts education) is used as the "engine" to convey knowledge and skills and digital competences (using the DigiCom 2.0 framework)[1]. The jointly developed competences enable the learners to create high-quality images to the topic "European Cultural Heritage". This database will be described in Part B of the guide.

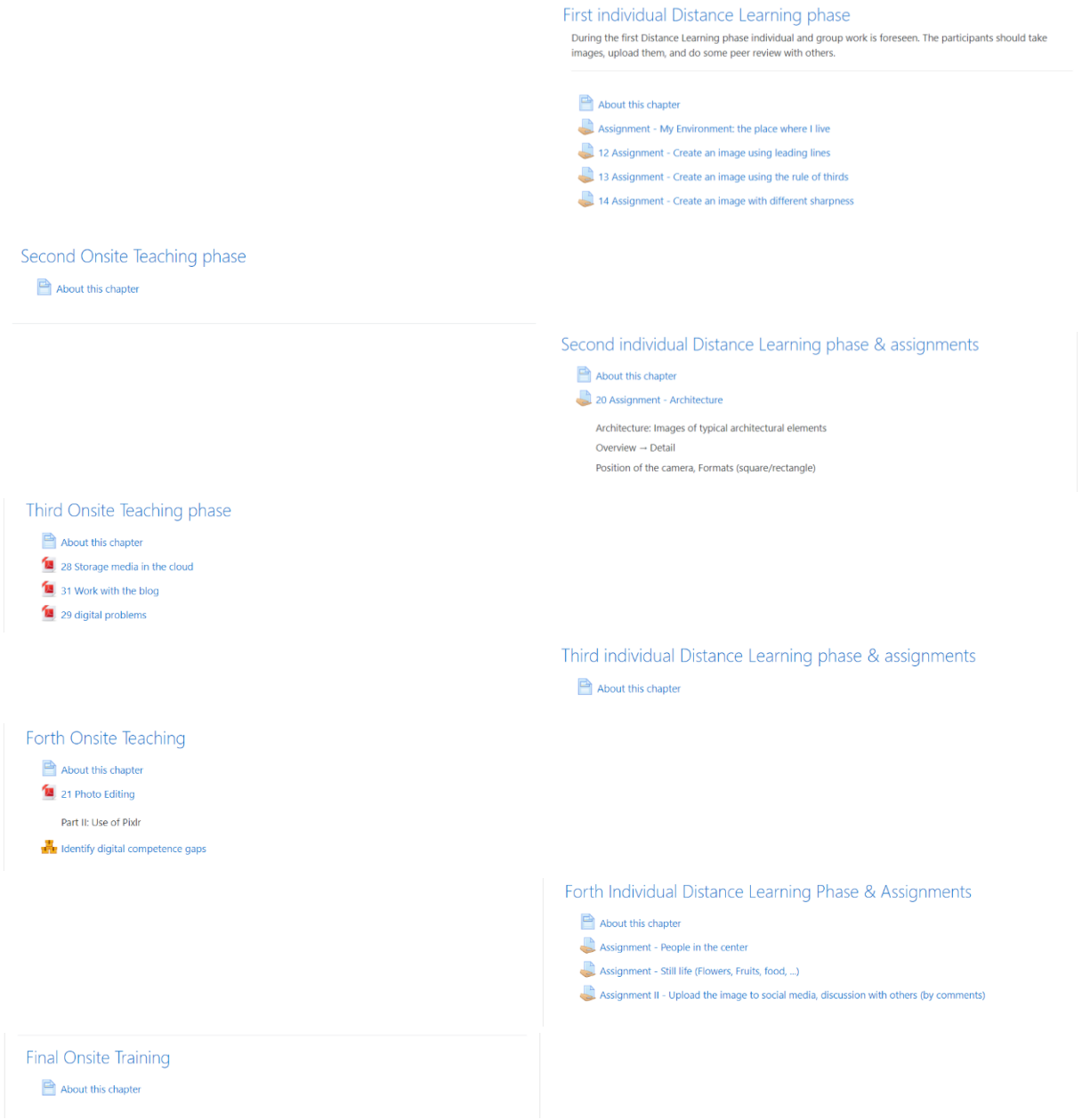
1.1 The basic course (English language)

The basic course has been developed as a Blended Learning format. Nevertheless, the various modules can be used also in other settings (as described below).





[1] The DigComp framework describes the digital skills of European Citizens to master the future. This project bases on an application from the year 2018, when DigComp 2.0 was the current version. You will find the documentation here: https://publications.jrc.ec.europa.eu/repository/handle/JRC101254. In the meantime, there was some further development (current version 2.0), and a specific framework "DigComp for Citizens" has been published. Nevertheless, the basic needs for digital competences did not change so much and the course content is still state of the art.



The onsite training focuses on practical work. This can be done

- As a lecture
- Workshop-based (with assistance to help the trainees)

The distance training focuses on

- Practising of new learned knowledge and skills
- Individual learning

Each learning phase contains material that can be used for individual learning.

1.2 Use of the course

The course can be used completely to convey and teach all competences. You may select individual items or chapters of the course and use them to create a tailored course for the target group. The individual chapters are (as far as possible) independent of each another and can be individually

combined into a course. One example is the course that was carried out as a test in the school sector with 16–17-year-old students in Austria.

1.2.1 Project-based Learning

The course concept enables a project-based approach.

Example

A cultural organisation organises regularly performed folk dance courses. Some participants of this course are interested in creating a multimedia-based presentation of the next training course to publish these activities in an appealing way.

The organization organises a project-based course with the topic “Folk Dance Adventure”.

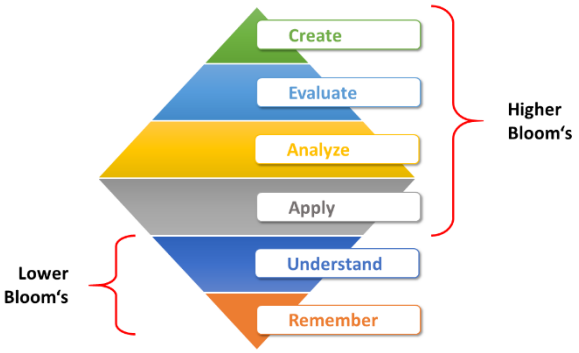
In this course, the participants develop ideas and strategies of the implementation of such a presentation. They get access to the CICERO course to get the necessary technical background and to learn the necessary technical knowledge and skills to create the presentation.

1.2.2 Flipped Learning 3.0

The developed CICERO Course can be used as the material for the individual learning space. Here is a short summary of the Flipped Learning 3.0 Framework[2].

The flipped learning 3.0 framework builds on active learning, Bloom’s taxonomy[3], and the two essential pillars are two different learning spaces.

[1] Bloom’s taxonomy is a set of three hierarchical models used to classify educational learning objectives into levels of complexity and specificity.



[2] The Individual Learning Space

The active learning in this learning space enables the learner to learn about the so-called Lower Bloom’s.

This is the place and the time, where and when the learner is alone. The assignments are in line with the “Lower Bloom’s”. These assignments focus on knowledge-based learning and the appropriate understanding. The learning process uses active learning assignments – often realized as multimedia-based and interactive learning content.

[2] More information is available from the webpage of the FAdE Project: The Flipped Learning Guide for Adult Education (FAdE Project, https://www.fade-in.eu/web/the-projects-results/the-flipped-learning-guide/)

[3] See: https://en.wikipedia.org/wiki/Bloom%27s_taxonomy

[3] The Group Learning Space
Learning of content related to the "Higher Bloom's" is done in the group learning space. The pedagogy is active learning in the "Group Space", if possible, implemented as group-based activities.

You may plan and structure a course conveying digital competences where you give specific assignments to the learners in the individual space using well-defined learning material from the course. The CICERO course is based on multimedia and interactivity and therefore well-suitable to be used in the individual space,

Practical and groups-based activities can be defined for the groups space. The typical activities are: creating content, collaborative learning (for example use of images) or group-based discussions.

How to implement the course based on Flipped Learning 3.0?

Precondition & starting point

Use the Backward Design[4] to develop and structure your course (based on the CICERO course).

Step 1

Identify the tasks based on "Lower Blooms" (understand, remember). All these items can be dedicated to the Individual Learning Space. The related content is in the Moodle course and can be worked out by the learners alone and the planned assignments are carried out. **Activity**: Write the list of the planned activities and assignments.

Step 2

Identify the activities planned and dedicated to the Group Learning Space (onsite activities). **Activity**: Write the list of group space activities and add the evaluation activities as developed in the Backward Design.

Step 3

Create the logical learning path providing a good mix of onsite learning (based on collaborative activities) and the distance learning. **Activity**: Write the course plan following step 1 and two. **Hint**: Do not forget additional material, like: Instructions to access the Moodle server, processes how to communicate during the course (trainer ⇔ learner, learner ⇔ learner), submission of assignments, foreseen assessments, and other related items.

1.1.1 Cooperative Learning

Cooperative learning has been considered as an effective and broadly accepted teaching strategy for years, even if blended learning and/or differentiated instruction dominate in the field.

Nevertheless, there are certain issues that need to be clarified when we deal with cooperative learning.

- How does it work in on-site training (Classroom in schools, training group of adults)?

[4] Backward Design in Flipped Learning 3.0: https://www.fade-in.eu/web/backward-design/

- Can cooperative learning work in a career and technical education (CTE) setting?

Definition

Cooperative Learning, according to Ada Ritacco (2020)[5] is an instructional method in which students work in small groups to accomplish a common learning goal with the guidance of the teacher.

Using this method, teachers could work on core competencies and on students' communication and soft skills by integrating them in school curricula. These issues are valuable for students' success in life and work.

One big advantage of Cooperative Learning Strategies is that they are content-free structures. In that way, they can be reused in different school contexts. They can be used both in pairs and groups.

Cooperative learning strategies are designed to fulfill all the so-called PIES principles:

- Positive interdependence,
- Individual accountability,
- Equal participation and
- Simultaneous Interactions.

Planning the CICERO Course based on Cooperative Learning

(1) The Learning Platform (MOODLE) still will remain as the source of basic knowledge (see: Individual Learning Space of Flipped Learning 3.0).
(2) Positive interdependence must be implemented using small groups. The best selection are pairs of two or also three people.
(3) To reduce the trainer's active involvement, group presentations of elaborated content should be engaged and be implemented as "collegial feedback activities".
(4) Especially practical work should be discussed in the training's peer group.
This is also valid for published content, in these cases the peer review can be done directly below the posts (Facebook, Blog).
Used Facebook groups or blogs must be non-public to ensure a "safe learning and training environment".

1.1.2 Pure Distance Learning

EDRASE explored to implement the course as a pure distance learning. You will find their description of the implementation here. Additionally, there a step-by-step recommendation gives instruction, how you can implement the course as pure distance learning.

General organizational issues.

We utilized the EDRASE teacher community, consisting of teachers who share common values, concerning the teaching methods and, ideally, support each other in the training process. The course consists of weekly lessons, which provide information on the current topic of the week, the material to be studied, and activities for the learners to familiarize with the tools taught. The trainees are divided into groups of 20-30 people (virtual classes), and an instructor, who is responsible for each group. The division into groups is determined by the qualifications they have and the place of residence of the trainees. A community of practice is organized into concentric circles, as follows:

[5] Ada Rigacci, 2020: What is Cooperative Learning? Five Strategies for Your Classroom. Retrieved from: https://www.teacheracademy.eu/blog/cooperative-learning-strategies/

- The central management team has responsibilities for the maintenance and management of the training platform, the production and updating of training material, monitoring forums, answering questions, and solving problems. Two trainers work in this team.
- A team of trainers' coordinators who coordinate trainers, organize online meetings to discuss problems, monitor trainers' scoring and intervene when needed, follow forums, answer questions, and inform the management team about essential issues. This team employs 2 teachers.
- A forums Support Team following the fora and answer any questions appointed to them as soon as possible. Three trainers work in this team.
- A team of trainers have the role of grader and animator and learning process facilitator. The traditional training model, where trainers provide ready-made knowledge and then evaluate the trainees, is not applied.
- Educational Material Design

Trainees attending a training course remotely, are more dependent on the educational material than students following a traditional form of education, as there are no face-to-face meetings with the instructor. The educational material is designed to:

- Guide the learners in their studies.
- Promote the learners' interaction with the material and activities.
- Explain difficult issues and concepts.
- Evaluate and inform the learners about their progress.
- Encourage the learner to continue.
- Allow the learners to freely choose the place and time as well as the pace of their studies.

When designing the training material, we consider the trainees' competence in using a computer, the time available for the trainees, the ease of communication with the trainer, and the course's voluntary nature.

Implementation

We use Pure Distance Education, which is divided into two main categories in terms of time implementation:

- **Synchronous**: Instructor and trainees interact in a different space but at the same time. Synchronous education can include webinars via video conferencing with audio and/or video, discussions (group, chats), etc. In our case, virtual meetings are organized two times during the course, via the tool "Big Blue Button". Trainers of each "virtual classroom" are invited for a one-hour meeting. During these meetings, many problems are solved on the spot and there is better connection among the trainers. This procedure facilitates the peer-learning, which is also present via the forum.

  The Learning Management Systems usually have a chat add-on, by which trainees can communicate, either in real time, or whenever they are available. Working with a Moodle platform, which is used in this project, trainees are encouraged to communicate with their peers.
- **Asynchronous**: Instructor and trainees interact in different spaces and times. Asynchronous education may include communication and availability of study material uploaded on the Moodle platform, emails, and recorded messages.

The trainees have access to the course material through the Moodle e-learning platform, and the participants are supported by the trainers, using tools such as fora chat, email, and video conferencing.

The material for a new course is posted each week, and participants are asked to submit assignments related to the respective unit. The content of the online courses is translated and adapted by the original course material produced during the project.

Assessment

Trainees, after finishing their assignments, are asked to send it either to their trainers through the platform, or to present it to their peers in the chat. Each trainee must provide a response within two weeks after the assignment has been uploaded on the Moodle platform. After this, the grading is locked, and no more assignments can be submitted.

The trainer checks the correctness of each assignment and give a grade – 1 (successfully completed) or 0 (not successfully completed). Along with the grade, feedback is provided to the trainee, concerning the quality of the response.

Another tool offered to the trainees for uploading the results of their assignments is the Facebook groups. A closed group is created only for the course trainees and the trainers. Each trainee needs to present his/her own work to the others. The interaction among peers is very much facilitated in this way.

Each trainee, having completed the 75% of the assignments, is considered to have finished the course successfully.

Course evaluation.

Before the course, trainees fill in a questionnaire, related to their degree of competence on digital skills and their expectations from the course.

At the end of the course, trainees fill in another questionnaire and are asked about their general and specific impression of the course, their best and worst moments, their suggestions, and the degree of their expectations' fulfilment.

Step-by-Step advises

Step 1

The training material is prepared according to the principles of Adult Education[6] (PDF file).

Step 2

Select the modules that fit to the interests of the target group you intend to appeal to.

Step 3

Write a call for participants, precisely describing the course content, its duration, and the obligations of the trainees. Note the maximum number of trainees.

Step 4

Provide a link to the on-line application of each participant. In this application, the following items should be included: • Full name • Access data: Email address & mobile telephone number. • Proficiency language level, for the course working language.

[6] https://cdn.who.int/media/docs/default-source/quitting-tobacco/part-iv-applyingadultskillstotraining.pdf?sfvrsn=300aa459_2

- Few questions about their digital skills like “I can send an email”, “I can use a word processor”, ‘I can perform a video call”.

Step 5

Provide a deadline for the application, not too close- not too late after the course announcement.

Step 6

After selecting the desired participant number, provide them detailed instructions how to register on the learning platform. Also, provide them with a link/email address to communicate, in case of facing difficulties.

Step 7

Organise an on-line meeting, to meet all the participants, to solve any problems and facilitate the trainee-trainee & trainer-trainee interaction.

Step 8

In every module, include activities and self-evaluation activities/questions.

Step 9

All the activities are checked by the trainer who provides feedback ASAP.

Step 10

The training material should be Interactive, in a multimedia form, not containing pdf archives.

Step 11

There should be a forum for comments and questions, so that the questions can be answered soon.

Step 12

Evaluation should be done at the beginning (exploratory), during the course (formative) and at the end of the course (summative evaluation).

Step 13

At the end of the course, a certificate of attendance must be given. To the student that have fulfilled the examination criteria

2 Transfer to School Education

The transfer to School Education offers opportunities of implementing active learning and the enriching of digital competences of pupils or students.

Here are some considerations as an aid to implement the course in School Education:

(a) You must check if the course content and the learning content is in frame of the curriculum of your learners. Currently, there is a big interest of the European Commission to increase the level of digital competences of European citizens – of course, this also includes pupils and students.
Hints:
If the course content does not fit to any curriculum you may try to implement the course as a non-compulsory project.
You also may create a tailored course for an existing curriculum by selecting well-fitting modules of the course (This was the approach to the pilot course in Austria).

(b) You must care for the access of your learners to the Moodle server. If the learners are not able to follow the course in English language the translation is necessary.
Hint:
You may cooperate with the language teaching in your school and create a kind of "interdisciplinary project": In English teaching the necessary vocabulary is taught and the essential terms are cleared, while you care about the digital competences.

(c) Pupils and especially students are interested in various social media and this interest should be used to convey digital skills.

1.2 Description of the School Education Course

As an example, for the transfer to other fields of education, the consortium presents here the pilot course in the field of school education. All considerations mentioned in this chapter can be used for further courses built on the CICERO course.

1.2.1 Concept of the course

School Education is formal education in contrast to the non-formal courses in Adult Education. This means to respect the curriculum and to rebuild the course well-fitting to the given curriculum. This need addresses both the learning aims as well as the age of the students.

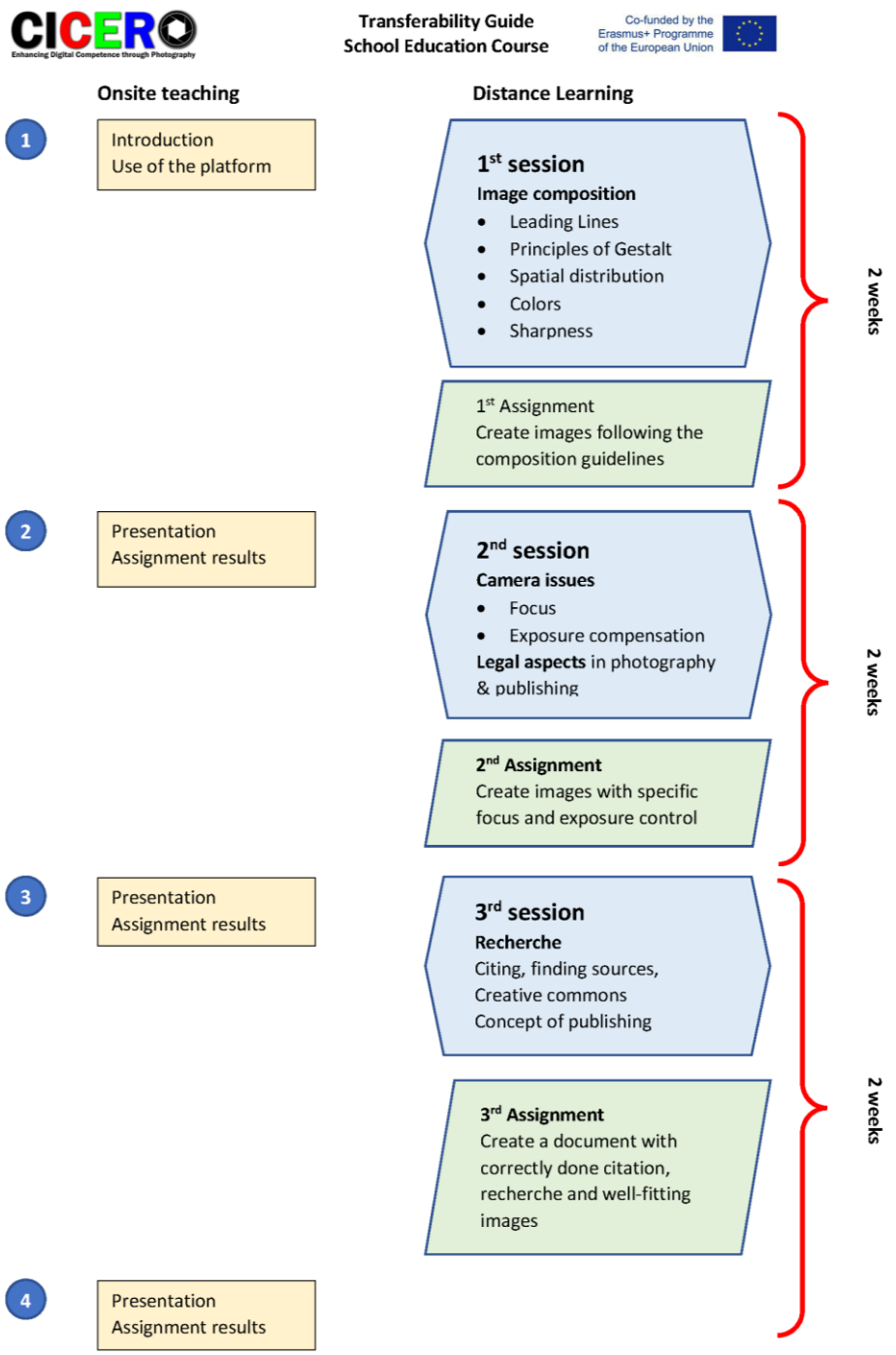


Figure 1: The concept of the course, matching with the curriculum's learning aims

In the figure above you see the Blended Learning structure of the ready-designed course. Backward Design was used to develop the course from the given learning outcomes. A promising approach to the course is to give assignments to the learners (blue hexagons) and to ask them to deepen or practice their learning experience with specific assignments. Since the students meet each other regularly in school lessons, a presentation of the various practical assignments is easy.

The concept of the course follows a Flipped Learning approach: The “lower Blooms” (as mentioned above and coloured green) are elaborated in the distance learning phase. Assignments, as individual practicing, and content creating tasks are mixed from “Lower Blooms” (individual learning space) and

"Higher Blooms" (group learning space). These tasks act as the preparing tasks for the real group learning space.

The yellow items in the schedule represent the on-site teaching. These tasks focus on "Higher blooms": Presentations, group discussions, peer feedback and similar items.

1.2.2 Step-by-step guide

Here the consortium presents a proposal how to start and to create such a course.

Precondition & starting point

Use the Backward Design[7] to develop and structure your course (based on the CICERO course).

Step 1

Check the curriculum and identify the well-fitting learning aims. Identify the tasks based on "Lower Blooms" (understand, remember). All these items can be dedicated to the Individual Learning Space. The related content is in the Moodle course and can be worked out by the learners alone and the planned assignments are carried out. **Activity**: Write the list of the planned activities and assignments.

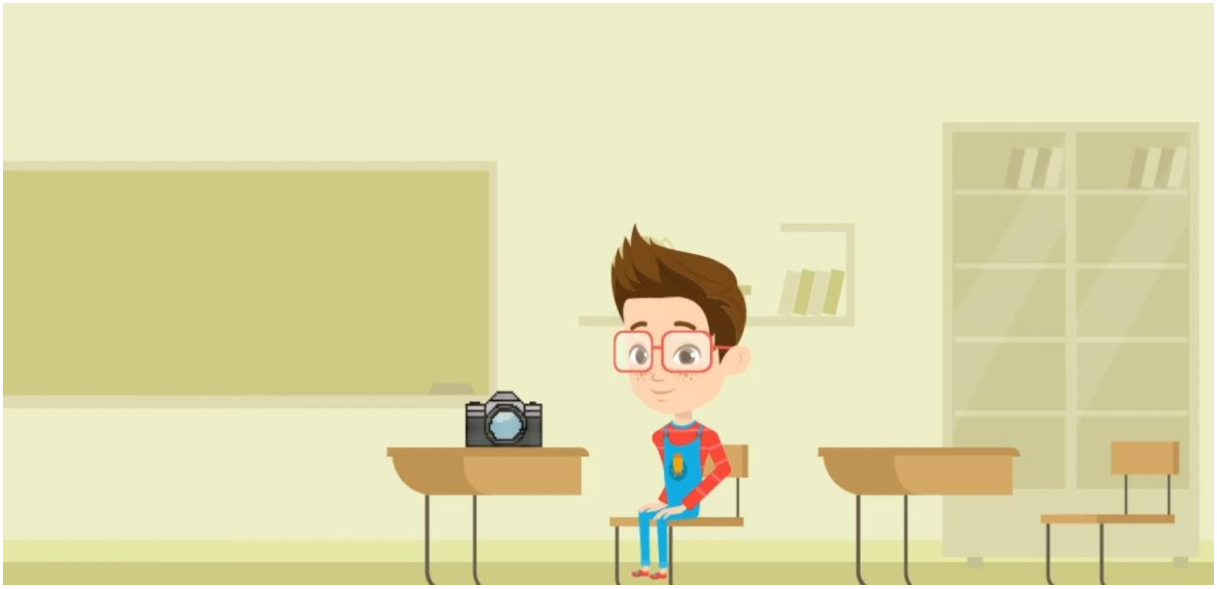
Step 2

Identify the activities planned and dedicated to the Group Learning Space (onsite activities). **Activity**: Write the list of group space activities and add the evaluation activities as developed in the Backward Design.

Step 3

Create the logical learning path providing a good mix of onsite learning (based on collaborative activities) and the distance learning. Take into account that students in an upper high school class are young adults, are used the think about assignments and also can come to creative solutions. **Activity**: Write the course plan following step one and two. **Hint**: Many schools use Moodle as a learning platform. This enables students to access the Moodle server (otherwise you must give appropriate instructions or practical advice). Do not forget to care for an agreement how to communicate during the course (trainer ⇔ learner, learner ⇔ learner), how and when the submission of assignments is expected, and other related items.

[7] Backward Design in Flipped Learning 3.0: https://www.fade-in.eu/web/backward-design/



Video 1: Summary of the School Education course

1.3 Evaluation of the School Education Course (Wiener Neustadt, Austria)

Since the students were familiar with MOODLE on where to find the task, there were no difficulties in finding the assignments.

A total number of n = 57 students accepted the task and submitted their results on MOODLE or TEAMS.

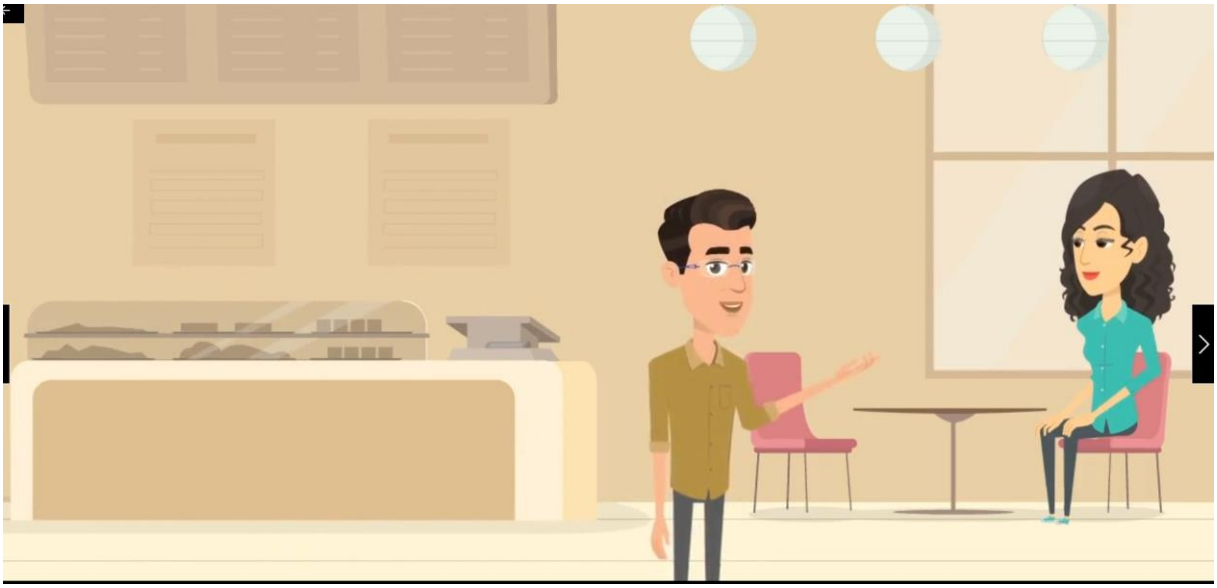
The evaluation of the course has been done in a key question interview.

- 90% of the pupils stated that the course was exciting or more exciting than in normal lessons. All participants stated that the tasks were formulated clearly and precisely.
- Around 70% of the participants stated that they would like to have such exercises more often or more of them. All participants submitted their results.

3 Transfer to other Fields of Education

The available material is licensed under a CC 4.0 license and can be used for free. The limitations are: no commercial use, and naming the source.

Here the consortium gives some examples for use in Vocational Education and Training (VET) and in Continuous Vocational Education and Training (C-VET).



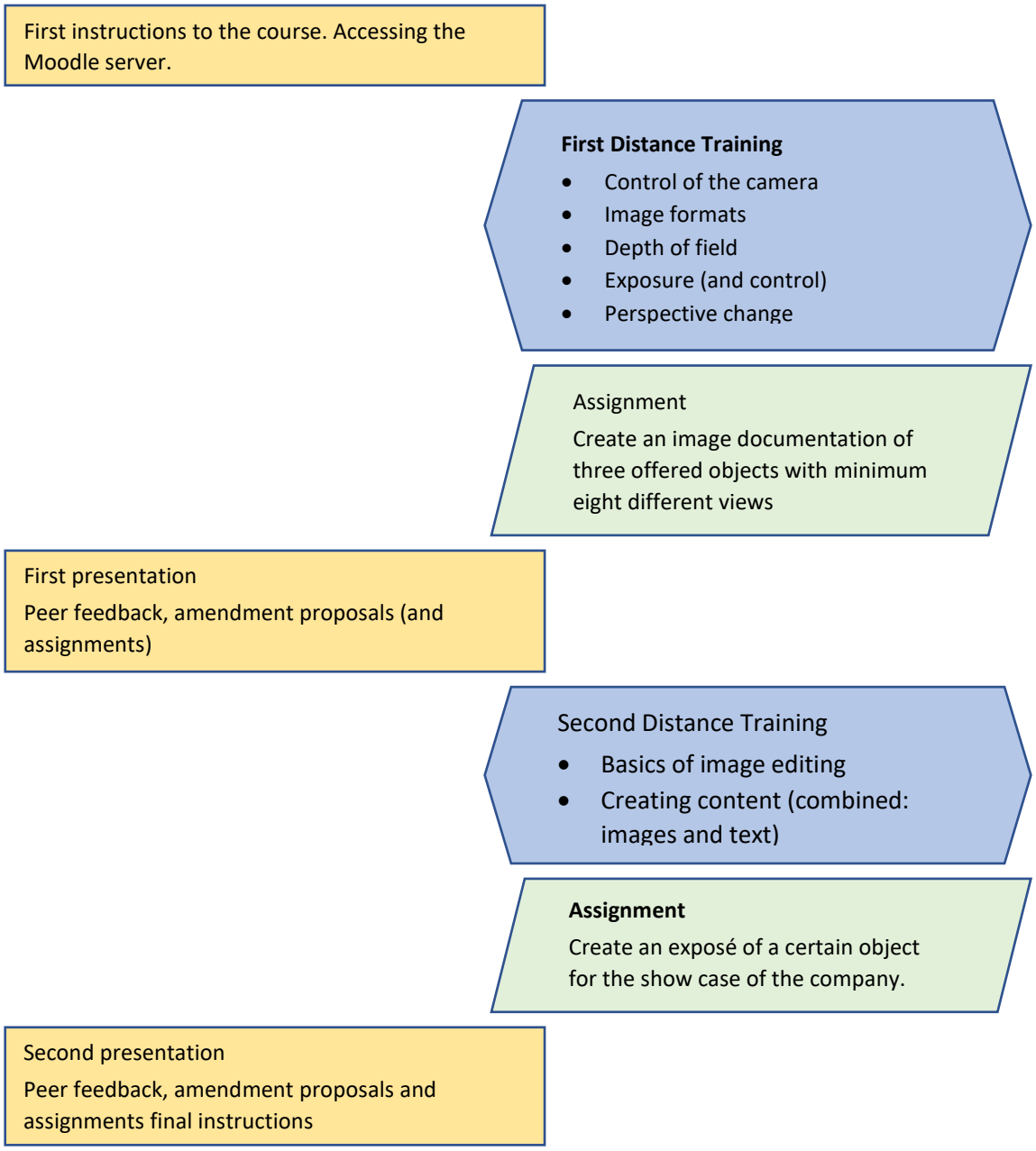
3.1 Examples for VET Education

Real Estate Business

Publishing and advertise the current or “highlights” is an essential process in real estate companies. The CICERO course material can be used to create and implement specific trainings for people working in a real estate company and being responsible for exposés and advertisement.

The approach to create such a course is like School Education, the difference is the missing curriculum

Here is the outlay of such a course.



1.3.1 Advertisements in the second-hand business

Second-hand and reuse of things is an upcoming trend and makes sense especially in the frame of environmental considerations and conserve resources. These exist many platforms in all European countries offering second-hand ware. These platforms focus on Household items, electrical appliances, and other items. A typical example of an international oil platform is eBay.

When dealing with these platforms, one sees on the one hand badly made images as well as the use of unlicensed product photos (often procured from the manufacturer's website).

Many offers come from self-employed entrepreneurs who fall into the SME category. The training material of the CICERO course can also be used excellently for these companies and their employees.

3.2 Higher Education

The CICERO course can be used in Higher Education as well. In many scientific papers or master theses image material of an extremely poor quality is presented.

Universities may offer the content of the CICERO course as a MOOC to offer the students to learn about image composition as well as the basics of image editing (and appropriate image formats).

Although today's students grew up in the digital world, that doesn't automatically mean they have the necessary digital skills for imagery and image publishing. He CICERO course, as a comprehensive compilation of the field of digital photography, can be used as a valuable self-learning tool.

4 Technical Transfer Issues

The CICERO Course is based on the platform MOODLE and the language is English.

There exist other language versions as well (German, Spanish, Portuguese, and Greek).

All modules are available as single download packages from the Moodle Server. These modules can be uploaded to your Moodle Server and translated into other languages (if necessary).

4.1 Pilot transfer of the course

Parts of the course have been uploaded to a tailored student's course (in German language) to the MOODLE Server provided by the testing school. There was a problem identified in various Moodle versions. The MOODLE Version of the school server was lower than the public available project server. Nevertheless, the transfer worked and the modules from MOODLE 3.9 could be uploaded and implemented on the school server with Moodle 3.6

4.2 Technical information

The CICERO Course has been developed using a MOODLE 3.9 equipment. Additional plugins were the H5P Plugin[8].

4.3 Multimedia content, based on H5P

There are two H5P modules integrated in the course.

Technical advice: H5P needs a host to be edited or displayed. Possible hosts are Moodle (H5P is an integrated part of Moodle starting with the version 3.10) of WordPress (In WordPress you need to install the H5P plugin to create or edit H5P content).

One uploaded to the host application, you can edit, modify, or translate the content.

4.4 Multimedia and interactive content, based on eXe-learning

exelearning.net is a collaborative project, supported by the Spanish Ministry of Education and other Spanish organisations. It offers a complete editor, running in a browser window. You can install eXeLearning locally and save the developed files also locally.

eXeLearning produces a set of files that might be uploaded to Moodle as well as can be used independently (from w webserver but also locally).

To edit the provided eXe-files you need the eXeLearning version 2.6. This version can be downloaded from the webpage https://exelearning.net/en/downloads/

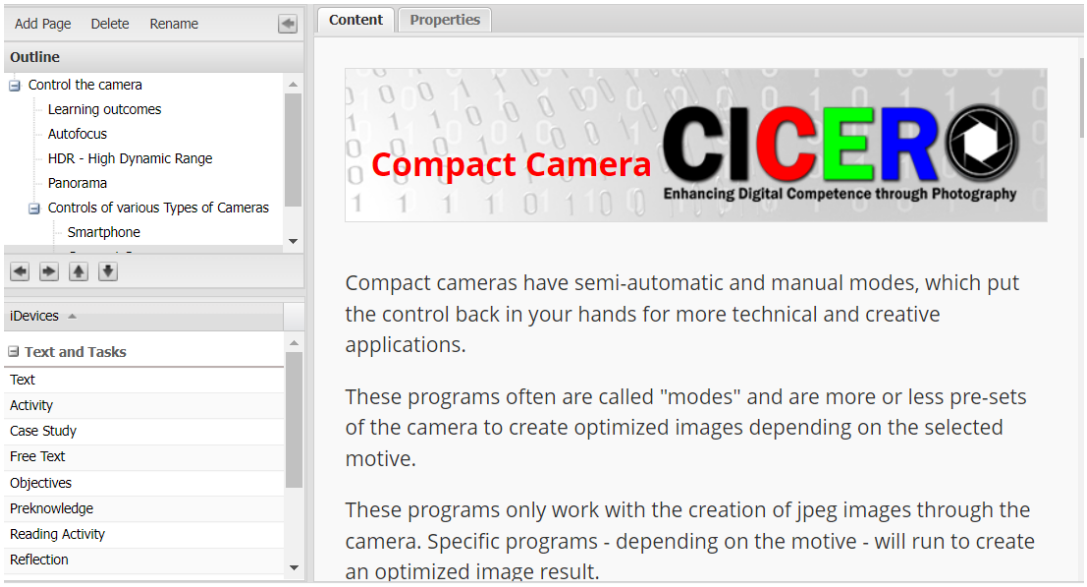
There exists a portable version, running from a USB Pen Drive, as well.

To translate the eXeLearning content you

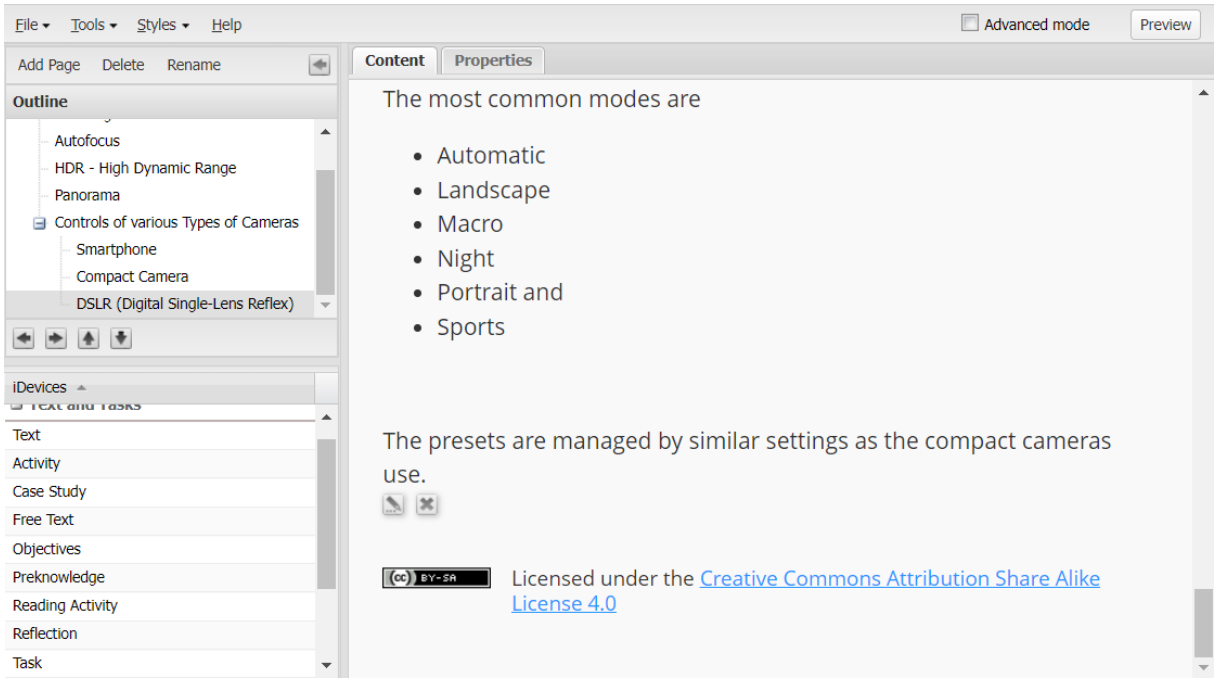
[1] Open the file with the eXeLearning Editor

[8] H5P is a multimedia and interactive content creating framework and free for use. Link: H5P.org

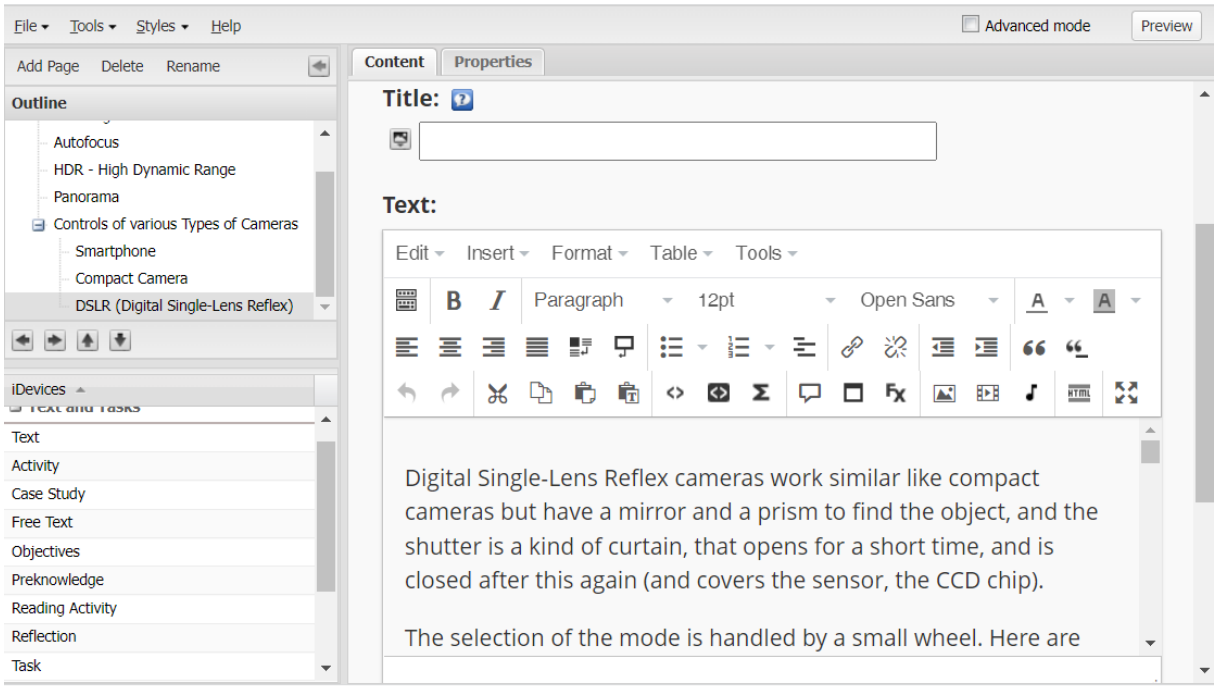
[2] You will find a menu to the left. Here you select the unit that will be translated



[3] Here you select the unit you want to edit. At the end of each element, you will find the edit-button.



[4] Pressing the edit-button you come to the editor



[5] The editor is the well-known Tiny-MCE editor. You may know this editor from WordPress or Moodle.

[6] Please, do not forget to save your edited text – you will find the button also at the end of each element.

[7] You may shorten or enhance texts due to the given license of the project's outputs.

Please consider that the work with eXeLearning needs a higher level of digital competencies, as well as the integration into the Moodle source.

A guide to eXeLearning is available from the intef.es web page. Link: https://descargas.intef.es/cedec/exe_learning/Manuales/exe21/Manual_exe21_English/the_idevices.html

4.4.1 List of eXeLearning modules

You can download the eXe-Learning files from the webpage as listed below. With the eXe-Learning editor you can edit the material as well as translate the content to different languages. All multimedia material is included in these files, external content (like videos) is linked from YouTube.

Name	Size
02 Control the camera.elp	1,301 MB
03_Image_File_Formats-EN.elp	1,839 MB
04 depth of field-EN.elp	1,896 MB
08_02-Metering.elp	3,217 MB
08_03-Noise.elp	1,191 MB
08_04-Shutter-Speed.elp	988,752 KB

08_05_aperture.elp	1,089 MB
10_07_framing.elp	4,592 MB
ColorCompositionContrast.elp	385,063 KB
FileFormats.elp	1,805 MB
image-compositions-lines.elp	1,614 MB
ManualVsAutomatic.elp	1,706 MB
SmartphoneExposureCompensation.elp	1,863 MB
SmartphoneFocus.elp	441,084 KB
UsetheInterplaybetweenForegroundandBackground.elp	2,583 MB

4.4.2 Availability from the project's web page

All items listed above can be downloaded from the project's download page.

Link: project-cicero.eu

5 Evaluation of the Transfer to other Fields of Education

The major item of the evaluation is the training of digital competences. As listed in the "Innovative Approach", photography is the engine to convey digital competences.

Evaluation concept

For the evaluation, please use this short questionnaire. The terms and topics refer to the DigComp 2.0 Framework.

The following table shows the major topics addressed in the CICERO course. You may select one topic. To follow the concept of the CICERO course model, all sub-items should be selected.

Topic	Yes	No
Topic "Safety"		
Data privacy concerning social media	○	○
Correctness and ethics	○	○
Protection of the own work	○	○
Information and data literacy		
Browsing, searching, and filtering data, information, and digital content	○	○
Evaluating data, information, and digital content	○	○
Managing data, information, and digital content	○	○
Communication and collaboration		
Platform (common field)	○	○
Collaboration (active learning issues)	○	○
Interaction (general)	○	○
Share and discuss (digital content)	○	○
Digital content creation		
Copyright & license	○	○
Photograph Theory	○	○
Storage media in the "cloud"	○	○
Photo editing	○	○
Problem solving		
Know about and solve digital problems	○	○
Identify digital competence gaps	○	○

For all major topics, MOODLE learning modules are available. You can download each of these modules and create a new course on your own MOODLE server.