

# DIGITAL IMMIGRANTS' SURVIVAL KIT

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## Abstract

Societies today are more and more digital, and digital transformation has an impact on all sectors of our lives. Tasks that used to be done on paper are now done digitally, for example, government paperwork, tax returns, travel and booking systems, shopping, and other tasks. In order to understand and perform such tasks, the European Commission has launched the DigComp framework for citizens. During the pandemic COVID-19 this has been extremely visible, when everything went online, vulnerable groups became even more vulnerable due to lacking competencies, understanding, infrastructure, and even devices but maybe most of all habits, attitudes, and digital mindset. Digital competences need to be learned by users as it includes not only knowledge but also experiential competencies, skills, attitudes, and new mindsets. Without digital competencies, individuals will be excluded from society. Learning digital skills requires not only external motivation but also that users feel that they can engage and be more independent citizens. In a tech and digitally dominated environment, inclusion requires that persons feel able to use digital tools and resources wisely and safely for their own purposes. Many adults, although capable and integrated into other areas, need support to become competent and confident in using digital tools. The two-year Digital Immigrants Survival Kit (DISK, 2019-2022, 2019-1-PT01-KA204-060898) project aims to develop a Survival Kit to learn to overcome missing digital competencies of adults with a special focus on digital immigrants i.e., persons who are disadvantaged in society due to a lack of digital competences and to enable them to take an active role in the digital society. In this regard, the project team identified needs and competence profiles in potential participants and is constructing a set of 15 modules on a variety of topics related to daily life and digital competencies. The Survival Kit will use Flipped Learning 3.0 as a training approach and contribute to the development of an innovative self-evaluation tool: competence-based self-evaluation mandalas. Carefully designed transferability and implementation guides will support the flexible transfer of the results and outcomes to other European countries and its wide and open use, especially facilitated since DISK toolkit modules will be published as Open Educational Resources (OER). The consortium consists of 5 partners, 3 adult education organizations, a university, and a specialist in course quality and Open Educational Resources with complementary skills, experience, and approaches to adult education. The process of creation of the profiles and modules, as of the different elements such as the self-evaluation mandalas, and its challenges, are relevant to reflect on how, under the current social circumstances in the European Union, one can act effectively on developing digital competencies with older adults.

Keywords: Adults, digitalization, digital immigrants, flipped learning, lifelong learning, mandala, self-evaluation, survival kit.

## 1 INTRODUCTION

The two-year Digital Immigrants Survival Kit (DISK, 2019-2022, 2019-1-PT01-KA204-060898) project aims to develop a Survival Kit to learn to overcome missing digital competencies of adults. It has a special focus on digital immigrants i.e., persons who are disadvantaged in society due to a lack of digital competences and to enable them to take an active role in the digital society [1]. In this regard, the project team identified needs and competence profiles in potential participants and is constructing a set of 15 modules on a variety of topics related to daily life and digital competencies. The Survival Kit will use Flipped Learning 3.0 as a training approach and contribute to the development of an innovative self-evaluation tool: competence-based self-evaluation mandalas [2]. Carefully designed transferability and implementation guides will support the flexible transfer of the results and outcomes to other European countries and its wide and open use, especially facilitated since DISK toolkit modules will be published as Open Educational Resources (OER) [3].

The consortium consists of five partners, three adult education organizations, a university, and a specialist in course quality and Open Educational Resources with complementary skills, experience, and approaches to adult education. The process of creation of the profiles and modules, as of the different elements such as the self-evaluation mandalas, and its challenges, are relevant to reflect on how, under the current social circumstances in the European Union, one can act effectively on developing digital competencies with older adults.

Societies today are more and more digital, and digital transformation has an impact on all sectors of our lives. To be an active citizen in a digital society, if one does not have adequate digital skills, one risks being left behind as more and more social activities and services are performed online, alongside tasks in private life, business, and work. Tasks that used to be done on paper are now done digitally, for example, government paperwork, tax returns, travel and booking systems, shopping, and other tasks.

In order to understand and perform such tasks, the European Commission has launched the DigComp framework for citizens [4]. DigComp builds on five areas (i) Information and Data Literacy, (ii) Communication and Collaboration, (iii) Digital Content Creation, (iv) Security, and (v) Problem-solving. Carretero, Vuorikari, and Punie updated DigComp to DigComp 2.1 [5]. It has eight proficiency levels as an example of practical use. In 2021, during the COVID-19 pandemic, the European Commission launched the MyDigiSkills self-evaluation tool built on the DigComp framework. MyDigiSkills helps to better understand one's level of digital skills based on knowledge, skills, and attitudes in each of the five areas of the European Digital Competence Framework for citizens [4, 5],

The importance of digital competencies has been extremely visible when everything went online - vulnerable groups became even more vulnerable due to lacking competencies, understanding, infrastructure, and even devices, a situation that was further complicated by a lack of habits, attitudes, and a digital mindset. The DISK project will try to limit those gaps and to motivate learners to learn and to increase their digital competencies and therefore increase their possibilities of successfully participating in the digital society, both in terms of societal tasks and issues and in what regards personal uses and needs. The DISK project and its skills map and toolkit with its modules are based on the European DigComp and DigComp 2.1. In addition, a self-assessment tool, a mandala, is developed as part of the DISK project.

## **2 METHODOLOGY**

The project started with a questionnaire addressed to the project's target group. The answers of this questionnaire were processed and interpreted as a competence map [6]. The competence map was the impact to the definition of the modules to be developed. In a training content framework, the related identified competences were collected, formulated to learning content, learning steps, activities and tasks, and finally in content types for Moodle.

The third step was the implementation of each module in Moodle. Modules are combined in topic-based courses and these pilots will be implemented in autumn of 2021. These will be tested, evaluated and will help building the base for an amendment process of the modules.

An evaluation and transferability guide will be developed at the end of the project to enable trainers to transfer the modules either to other fields of education or also to combine modules differently to create new courses. To keep the quality of new developed and composed courses the evaluation guide gives the necessary support.

## **3 RESULTS**

The main outcomes from the DISK project and the elements that lead to the Digital Immigrants Survival kit (toolkit, course modules) are the following:

- Competence Map (fitting to the described modules of the Toolkit)
- Developed training content
- Training path and pilot testing
- OERs (Open Education Resources)
- Transferability and implementation guide

### 3.1 Competence Map

The competence map has been developed out of a questionnaire sent to people of the target group. The scope of 165 people included responses from three different countries - Austria (N = 58), Italy (N = 74) and Greece (N = 33) - from different age groups (16 to 35 years old N = 30; 36 to 55 years old N = 70; and 56 or more N = 59).

The questions covered five competence areas: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. The complete document covering the study is available from the project's webpage [1]. The competence maps could be illustrated as spider diagrams, as in Figure 1 below from one of the German speaking respondents, where 0 is low level and 4 is the highest level.

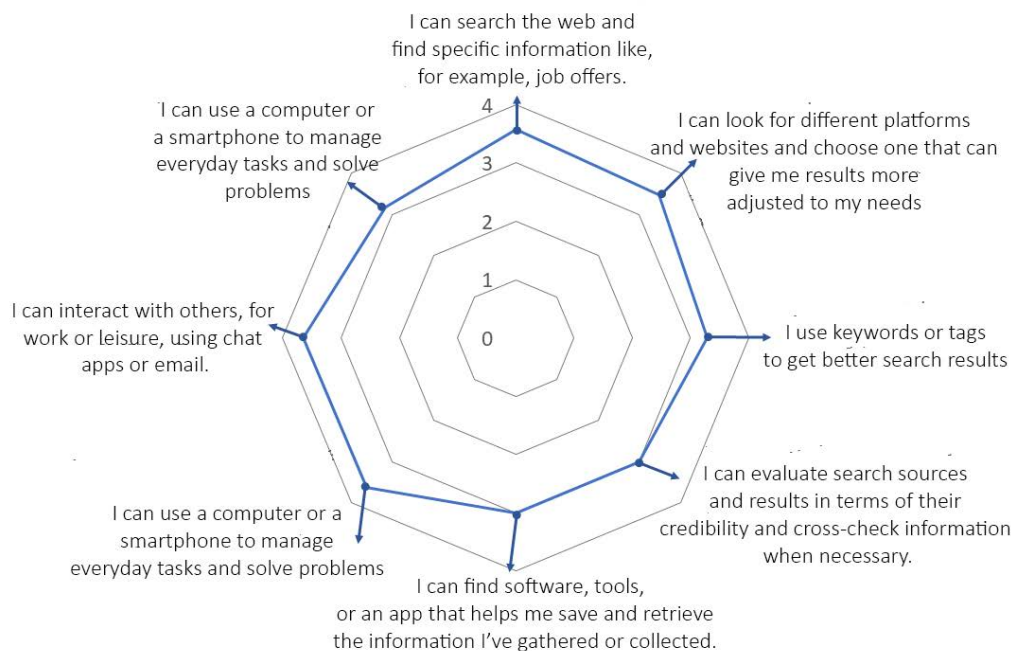


Figure 1: Competence map (built from the Austrian results)

### 3.2 Developed Training content

Each developed module of the “Survival Kit” is documented in a short guide including:

- The training material itself
- All support materials (like trainees’ and trainers’ instructions)
- Hints for trainers (summary of the lessons learned sessions)
- The ready-to-use Moodle course
- The templates for the self-evaluation mandalas
- A guide of how to use the self-evaluation mandalas

The developed modules are (title and connected competence)

- 1 Video production & use of video
- 2 Images
- 3 Techniques for image creating. These modules focus on Create content, store, share data, use of content
- 4 Images for documentation of specific situations (Create content, store, share data, use)
- 5 Dealing with authorities and government (Know about governmental services, social insurance, taxes, digital signature, other online services)

- 6 Social contact (Content creation: To create and edit digital content, to improve and integrate information and content into an existing body of knowledge while understanding how copyright and licences are to be applied. Social inclusion)
- 7 Digital Communication (Safety: To protect devices, content, personal data and privacy in digital environments)
- 8 Use booking, selling, and other platforms (Information and data literacy, Safety, Social inclusion)
- 9 Searching Information (Information and data literacy)
- 10 Digital help for daily problems (o articulate information needs, to locate and retrieve digital data, information and content. To judge the relevance of the source and its content)
- 11 Privacy and device safety (Safety, digital identity)
- 12 Use of web tools (To use digital tools to innovate processes and products)
- 13 Payment using the internet (Safety: To protect devices, content, personal data and privacy in digital environments)
- 14 Finding free books; Google Maps (To articulate information needs, to locate and retrieve digital data)
- 15 Learning activities and options like OER & MOOCs (To articulate information needs, to locate and retrieve digital data, information, and content)

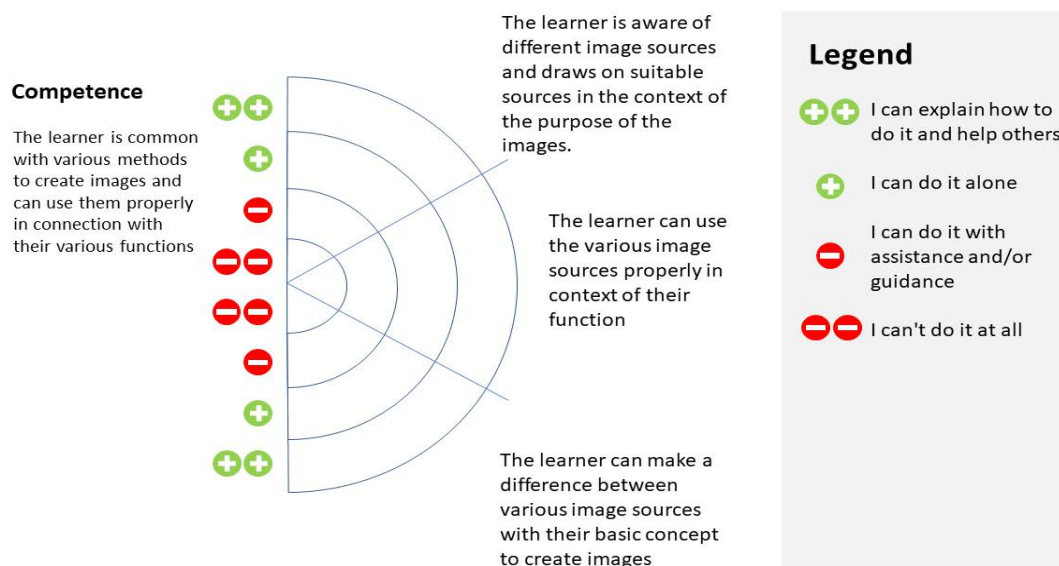


Figure 2. The Self-evaluation Mandala.

The mandala is used twice in each module: At the beginning, the mandala is downloaded by each course participant. The relevant areas are coloured, and the mandala is kept and after the module is finished by the learner, the mandala is downloaded a second time and coloured again. The comparison between the two mandalas shows the learning progress at a glance.

The mandala has a second intention: creating the mandala forces the developing team (in many smaller organisations this is the trainer itself) to think carefully about which competences are to be taught in the module. This also has an impact on assessments: knowing what is being taught in each course makes transparent what is being assessed.

### 3.3 Applied Methods for the course development

The developed training courses are based on modern state-of-the-art training approaches. The delivery of content is done using Blended Learning. The structure of the developed course modules uses elements from the Flipped Learning 3.0 Framework [2]. All these considerations lead to well-structured learner-centered modules based on active learning. Most content has been developed based on multimedia and interactive content. This approach will ensure the best possible learning success.

### 3.4 Open Educational Resources

Since the launch of the UNESCO OER recommendation [3] OER are defined as.

- a) Open Educational Resources (OER) *are learning, teaching and research materials in any format and medium that reside in the public domain or are under copyright that have been released under an open license, that permit no-cost access, re-use, re-purpose, adaptation and redistribution by others.*
- b) Open license ... *refers to a license that respects the intellectual property rights of the copyright owner and provides permissions granting the public the rights to access, re-use, re-purpose, adapt and redistribute educational materials.*

Open Educational resources (OER) are developed from the implemented and evaluated modules. The OER in this project is licenced under CC BY -SA 4.0 licence. Each developed module of the "Survival Kit" is documented in a short guide thatch includes:

- The training material itself
- All supporting materials (such as instructions for participants and trainers)
- Notes for trainers (summary of lessons learned sessions)
- The ready-to-use Moodle course
- The templates for the self-assessment mandalas
- A guide to using the self-assessment mandalas

Moreover, resources and materials used in the DISK project are licensed as OER.

### 3.5 Transferability and Implementation Guide

Guide summarizes the background information of the different modules (e.g. the graphics of competence maps or the dependencies of competences in various modules) and describes the implementation of modules. The documentation of the Survival kit:

- Allows trainers to modify modules by adding appropriate competencies, combining modules into larger units or adapting modules to a different group of adults (educational level, age, environmental conditions).
- Allows educators, trainers or teachers to transfer the modules to another area of education (mainly school education).

Guide will be available in several types of media to better fit the interested parties:

- ePub – for general readers as MOBI for Kindle (flexible format with images)
- PDF – printable format (with media links)
- Web – HTML 5 including interactive multimedia elements (provided from web page)

## 4 CONCLUSIONS

The DISK project developed by the consortium, which builds on the foundations of DigComp and DigComp 2.1, even seems to meet the guidelines of MyDigiSkills [7]. Furthermore, the competence map developed at the beginning of the project shows congruence with MyDigSkills. Also, the developed mandala is in accordance with MyDigSkills. As the project partners come from different countries with different languages, cultures, and traditions in the digital age, it was interesting to share experiences.

All materials and guidelines aim to be interactive and user-friendly. As partnership is working with transferability and implementation guides as well as OER, this means that the resources developed can be reused, translated and transferred in different contexts and cultures and languages. As part of the project, the respective resources will be translated from English into partner languages, i.e. German, Greek, Italian, Portuguese and Swedish.

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## REFERENCES

- [1] DISK, “*Digital Immigrants Toolbox*”. 2021. Retrieved from <https://www.disk-project.eu> on 11May2021.
- [2] J. Bergmann and E. Smith, *Flipped Learning 3.0: The Operating System for the Future of Talent Development*. Jacksonville: FL Global Publishing, Isbn 978-0999139707, 2017.
- [3] UNESCO, “*Recommendation on Open Educational Resources (OER)*”. 2019. Retrieved from [http://portal.unesco.org/en/ev.php-URL\\_ID=49556&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/en/ev.php-URL_ID=49556&URL_DO=DO_TOPIC&URL_SECTION=201.html) on 11May2021.
- [4] R. Vuorikari, Y. Punie, S. Carretero Gomez and G. Van Den Brande. “*DigComp 2.0: The Digital Competence Framework for Citizens. Update Phase 1: The Conceptual Reference Model*”. EUR 27948 EN. Luxembourg (Luxembourg): Publications Office of the European Union, JRC101254, 2016.
- [5] S. Carretero Gomez, R. Vuorikari and Y. Punie. “*DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use*”, EUR 28558 EN, Publications Office of the European Union, Luxembourg, doi:10.2760/38842, 2017.
- [6] DISK, “*Digital Immigrants Toolbox, Competence Map, A map of the digital competences of adults in Austria, Italy and Greece*”. 2021. Retrieved from <https://www.disk-project.eu> on 11May2021.
- [7] All Digital Aisbl, “*MyDigiSkills*”. 2021. Retrieved from <https://mydigiskills.eu/index.php> on 11May2021.