A Guide to DIGCOMP for National Operators
2016
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1 Introduction

This a guide for National Operators about DIGCOMP and its compatibility with ECDL. First, it describes what DIGCOMP is and its rationale. Second, it explains the mapping and compatibility between DIGCOMP and ECDL. Third, it provides an overview of instances where DIGCOMP has been applied and presents case studies from countries that have already aligned with DIGCOMP (Poland and Latvia). In the Annex, a mapping between DIGCOMP and ECDL is provided.

DIGCOMP is a digital competence framework\(^1\), created by the European Commission (EC) that aims to facilitate the development and understanding of digital competence in Europe. Digital competence is one of eight key competences for lifelong learning outlined in a recommendation of the European Parliament and the Council of the European Union\(^2\).

DIGCOMP proposes a set of digital competences for all citizens. Individual competences (21 in total) are grouped into five competence areas: Information, Communication, Content Creation, Safety, and Problem Solving. Three proficiency levels – Foundation, Intermediate, and Advanced – are defined for each of the competences.

The European Commission (EC) promotes this framework through various projects, events and working groups. It will be used as a basis to develop digital competence frameworks for specific groups (e.g. teachers, and consumers, and to guide self-evaluation of digital skills (a self-assessment grid in the Europass CV). It has also been used for European statistics (for example the Digital Skills Indicator in Digital Agenda Scoreboard\(^3\)).

In recent years, some European countries have started to employ the framework to guide teachers’ professional development, education and training content, the assessment of employability, and to inform policy decisions around digital skills development\(^4\). Moreover, under the EU funding programme for 2014-2020, some Member States are willing to provide funding for those projects that are aligned with the new DIGCOMP framework (e.g. Poland, Latvia, and Estonia).

When applying for EU funding, it is important to bear in mind that ECDL is fully compatible with DIGCOMP. The European Commission acknowledges this\(^5\) and has publicly shared the mapping between DIGCOMP and ECDL\(^6\). ECDL does not fully cover all of the DIGCOMP competence areas because ECDL focuses on functional skills relevant to the workplace, rather than cognitively complex activities. However, this fact does not alter

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compatibility between the two because the European digital competence framework is intended as an all-encompassing guidance document, rather than a training syllabus.

2 About DIGCOMP

2.1 How and Why Was it Created?

DIGCOMP is the main deliverable of a digital competence project completed in 2013 by the Institute of Prospective Technology Studies (IPTS), which is an institute of the European Commission’s Joint Research Centre (JRC). The project was carried out on behalf of the European Commission’s Directorate-General Education and Culture (DG EAC). It included a review of existing relevant frameworks and structures, the development of a conceptual map, online consultation with stakeholders, and workshops.

DG Education and Culture commissioned the project with the following aims:

- “To identify the key components of Digital Competence in terms of the knowledge, skills and attitudes needed to be digitally competent;
- To develop Digital Competence descriptors that will feed a conceptual framework and/or guidelines that can be validated at European level, taking into account relevant frameworks currently available;
- To propose a roadmap for the possible use and revision of a Digital Competence framework and descriptors of Digital Competences for all levels of learners.”

Due to the changing portfolios of the European Commissioners at the end of 2014, DIGCOMP has become the responsibility of DG Employment, Social Affairs, Skills and Labour Mobility (DG EMPL). As a consequence, the focus of the framework has shifted from educational outcomes to competences required for all European citizens.

JRC-IPTS, on behalf of the EC, undertake the maintenance and updating of DIGCOMP. Further collaboration takes place with a wider group of stakeholders, such as national authorities, interest groups and key players including ECDL Foundation.

The EC sees DIGCOMP as complementary to the Competence Framework for Professionals (the European e-Competence Framework) and the European e-Competence Framework for Users. However, gradual progression from the highest levels of DIGCOMP to the lowest levels of e-CF has not been clearly defined.

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8 Pg 2: “DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe”.
9 http://www.ecompetences.eu/
2.2 Target Groups of DIGCOMP

The EC names two key target groups of the DIGCOMP framework: citizens and institutions.

The following citizen groups are indicated as users of DIGCOMP:

- **Citizens with low abilities to use ICT in daily life** – to better identify the skills that they need to improve in order to live and work as active citizens
- **Unemployed people and those looking for a job** – to identify digital skills that they already have and their level, and include them in their CVs. To identify which skills are missing and, based on that, find relevant learning opportunities
- **Employers looking for new employees** – to define, exactly, the set of competences that a specific vacancy requires when developing a job description
- **Employment services** – to use relevant labour market information in a meaningful way to offer career guidance for job seekers
- **Teachers** – to develop courses linked to relevant curriculum and assessment.

Institutions are advised to use DIGCOMP in the following ways:

- To develop digital competence strategies for education and training
- To update/reform curricula and content
- For professional development and guidance for teachers
- For the individual assessment of job seekers
- For the provision of training courses and validation of informal and non-formal training

From these two lists, we can gather two key messages: first, different target groups can apply DIGCOMP in a number of ways – they are free to use DIGCOMP in the way that serves their needs the best. Second, this framework is flexible enough to be adapted to different circumstances. The EC does not insist that it should be applied in a rigid way. On the contrary, the offered solutions indicate that this framework should be adapted to the various needs of different target groups.

For example, an employer who is looking for an employee with competences in Information Processing (browsing, searching and filtering information, evaluating information and storing and retrieving information), can use these terms for the job description and communicate their needs to employment services. However, it does not mean that employers are obliged to define their needs based on all DIGCOMP dimensions. In other words, DIGCOMP should
be used in a flexible way to facilitate the employment process rather than to aggravate it. As the European Commission puts it, DIGCOMP “is an enabler; it is designed to empower users, not to restrict them”\textsuperscript{13}.

For more information about DIGCOMP, please see the European Commission’s brochure, “A common European Digital Competence Framework for Citizens”\textsuperscript{14}.

### 2.3 Future Development of DIGCOMP

The first version of DIGCOMP (1.0) was published in 2013. It is the only version that is available publicly at the moment\textsuperscript{15}. JRC-IPTS is currently working on updating the framework and version 2.0 of the document is expected to be published in 2016.

In terms of the application of DIGCOMP in the near future, the EC\textsuperscript{16} would like it to be adopted by education and training providers, as well as employment services on national, regional and local levels. Moreover, it is expected to be further developed to fit the particular needs of different target groups: teachers (primary and secondary education), consumers, care workers, the unemployed, etc. Using DIGCOMP as a basis, the European Commission is developing two derivative competence frameworks: the Teachers’ Digital Competence Framework and the Consumers’ Digital Competence Framework\textsuperscript{17}. Finally, the EC continues to promote this framework on the policy level through the development of a self-assessment tool for the transversal skills of citizens and by foreseeing a prominent role for DIGCOMP in the up-coming European Skills Initiative (to be published May 2016).

### 3 DIGCOMP and ECDL

- DIGCOMP is a conceptual framework to support comprehension of the broad area of “digital competences” and to promote specific initiatives to improve competence levels among European citizens.
- ECDL develops, mainly through certification, specific sets of skills that, in the main, are focused on employability.

\textit{It is important to note that DIGCOMP does not ’compete’ with ECDL – it is a general, high level description of a space in which ECDL offers specific solutions.}

ECDL Foundation was involved as a stakeholder in some of the activities, including workshops, which led to the development of DIGCOMP. As well as highlighting experiences and informed opinions relating to the definition of digital skills, ECDL Foundation also contributed insights from its experience leading the development of the e-

\textsuperscript{15} http://ftp.jrc.es/EURdoc/JRC83167.pdf
\textsuperscript{17} https://ec.europa.eu/jrc/en/digcomp/governance
Competence Framework for ICT Users\(^\text{18}\). However, most of the stakeholders involved in the development of the DIGCOMP framework came from the education sector, reflecting the priorities of the sponsoring organisation (DG EAC). This is reflected in the final content and construct of the framework. The competence areas, for example, emphasise more transversal, ‘softer’ competences – such as problem solving – whereas ECDL is generally more focused on functional skills that are required to support employability. In addition, DIGCOMP attempts to define competences in a way that spans basic knowledge up to relatively complex concepts and skills\(^\text{19}\).

<table>
<thead>
<tr>
<th></th>
<th>DIGCOMP</th>
<th>ECDL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of Detail</td>
<td>Generalised, top-level descriptions with some examples</td>
<td>Specific learning objectives</td>
</tr>
<tr>
<td>Purpose</td>
<td>Reference framework to facilitate understanding and specific activities</td>
<td>Specific certification solutions based on tests</td>
</tr>
<tr>
<td>Developed for:</td>
<td>“European citizens”</td>
<td>Individuals who wish to develop their current and future workplace skills (e.g. students, jobseekers, those already in employment)</td>
</tr>
<tr>
<td>Developed by:</td>
<td>Mainly educationalists</td>
<td>Computer societies and related experts from Europe and beyond.</td>
</tr>
</tbody>
</table>

Part of the function of DIGCOMP is to help understand digital competences. It can therefore function as a reference framework – a tool against which solutions can be mapped in order to understand these solutions using a common ‘language’ and to compare solutions. In order to illustrate how this could work in a practical way, ECDL Foundation and IPTS carried out a mapping of ECDL Foundation Base modules against the DIGCOMP framework (see Annex 1. DIGCOMP Mapped Against ECDL Base Modules).

The mapping highlights a few key points:

- ECDL maps primarily to foundational and intermediate competences. This reflects the focus of our modules on functional skills and enabling concepts – as opposed to more cognitively complex activities\(^\text{20}\).
- ECDL maps to most, but not all, competence areas and competences. In particular, there is little coverage of the DIGCOMP Problem Solving competence area in our Base modules. This again reflects the fact that ECDL provides the building blocks on which broader activities like problem solving can be carried out.
- There are a large number of ECDL skill sets clustering around certain competences – e.g. Content Creation. Again, this reflects the fact that ECDL is concerned with the skills to carry out specific, common tasks in the workplace. Although the mapping only covered ECDL Base modules, the addition of other ECDL Standard modules (for example, Presentations, Image Editing, Project Planning) would have resulted in an even larger number of items clustering around these competences.


\(^{19}\) For example, the advanced proficiency level of content creation references the ability to “…write source code”.

\(^{20}\) For example, evaluation of options, or synthesis of information or outputs.
In summary, the fact that ECDL Base – or indeed the full set of ECDL modules – does not cover all DIGCOMP competences across all levels does not necessarily indicate a “deficiency” in ECDL. Instead, it shows where ECDL’s area of focus is – functional skills that are relevant to the workplace. ECDL does not compete with DIGCOMP and is completely compatible with this framework. The European Commission also shares this opinion (see examples of EC\textsuperscript{21} and JRC-IPTS\textsuperscript{22} staff presentations) and the fact that ECDL does not cover all competences of the digital competence framework is normal because DIGCOMP is intended to encompass a wide range of digital competences relevant for a large variety of target groups.

4 Practical Applications of DIGCOMP

A self-assessment tool for digital competences for citizens has been included in Europass CV format\textsuperscript{23}. It is based on the DIGCOMP structure. Users are asked to evaluate their digital competence in five areas: Information Processing, Communication, Content Creation, Safety and Problem Solving and three competence levels: Basic User, Independent User and Proficient User. They are also asked to provide a certificate as a proof of these competences, for example, an ECDL certificate (see Figure 1).

![Digital competence framework - Self-assessment grid](image)

Figure 1. Visualisation of Digital Competence self-assessment tool in Europass CV. Lieve Van den Brande, DG EMPL, “Supporting digital skills as a necessary competence in the workforce of the future”, 20 November 2014\textsuperscript{24}.

The fact that ECDL certificate can be provided as a proof of acquired digital competence could encourage individuals to choose ECDL programmes to fill in their existing digital competence gaps.

4.1 Polish and Latvian Experience

Given that education is the ultimate responsibility of individual Member States, the adoption of the framework has been inconsistent. IPTS (as of June 2015) has provided a list of examples of national or regional adoption of the framework across Europe, classified under “Teacher competence development”, “Assessment for employability”,


\textsuperscript{22} Dr. Riina Vuorikari “European Digital Competence framework for citizens: 8 levels of learning outcomes”, [http://www.slideshare.net/vuorikari/et2020-wg-digcomp-and-8-levels-of-learning-outcomes](http://www.slideshare.net/vuorikari/et2020-wg-digcomp-and-8-levels-of-learning-outcomes)


\textsuperscript{24} [http://www.media-and-learning.eu/sites/default/files/presentations/HA_Thu20_09.00_Van%20den%20Brande.ppt](http://www.media-and-learning.eu/sites/default/files/presentations/HA_Thu20_09.00_Van%20den%20Brande.ppt)
“Education & training content / assessment”, and “Policy support / framework implementation”\textsuperscript{25}. The majority of European Union countries appear not to have any active projects relating to DIGCOMP. Where applications of DIGCOMP exist, they are varied in nature, ranging from informing the development of a self-assessment tools (e.g. in Spain\textsuperscript{26}), to inputting into curriculum review (e.g. in Belgium\textsuperscript{27}), to informing a basic digital skills framework (e.g. in the UK\textsuperscript{28}).

4.1.1 Adoption Relating to ECDL

Although DIGCOMP has only been considered as an input into the digital skills landscape in a minority of European countries, it has had an impact on some ECDL operations.

- In Poland, a strict interpretation of DIGCOMP is being used as a basis for assigning European funding to local projects to develop digital skills. This has led to the National Operator having to explore specific activities to ensure that all the elements of DIGCOMP are met by different ECDL solutions. This interpretation does not seem to be in keeping with the objectives of the DIGCOMP, particularly when it comes to requirement for the whole framework to be covered. As noted above, the framework is both broad in terms of competences areas and deep in terms of proficiency.

- In Latvia, by contrast, the ministry for education has recommended that digital skills solutions be relevant to DIGCOMP – this more flexible, “referencing” approach meant that the ECDL operator there has been able get ECDL programmes onto the official state employment agency list of approved courses.

It is suggested that National Operators should be proactive with regard to DIGCOMP, to ensure that they both keep informed of moves to adopt DIGCOMP in their markets and, where possible, influence how it is adopted. Although National Operators should not feel that they need to actively promote DIGCOMP, they should follow any national discussion about it and become involved in the dialog where possible. Because there is considerable variation between countries relating to the formation of national educational policy, it is hard to give definitive guidance on how to best engage nationally or on what the specific outcome is. However, an implementation of DIGCOMP that uses it as a reference tool to allow programmes to demonstrate their relevance is one that should support ECDL. A suggested starting point is to identify the national contact point for DIGCOMP where one exists\textsuperscript{29} and to enquire whether there are any planned activities around integrating DIGCOMP into education or employment policy.

\textsuperscript{25} See IPTS June 2015 cited above: Note that there are just 12 specific examples
\textsuperscript{26} http://ikanos.blog.euskadi.net/?page_id=1447&lang=en
\textsuperscript{27} https://ec.europa.eu/jrc/en/digcomp/implementation
\textsuperscript{28} http://www.go-on.co.uk/get-involved/basic-digital-skills/
\textsuperscript{29} See https://ec.europa.eu/jrc/en/digcomp/implementation
5 Summary

- DIGCOMP was created by the European Commission with the aim of facilitating the development and understanding of digital competence in Europe.
- DIGCOMP is an all-encompassing framework which can be used flexibly to serve the needs of different target groups.
- DIGCOMP does not “compete” with ECDL – it is a general, high level description of a space in which ECDL offers specific solutions.
- ECDL is fully compatible with DIGCOMP. The detailed mapping between the two was carried out by ECDL Foundation and JRC-IPTS. It can be found in the Annex of this paper.
- The fact that the DIGCOMP structure serves as a basis for the self-assessment tool in Europass CV could encourage individuals to choose ECDL certification as a proof of acquired competences.
- The adoption of DIGCOMP has been inconsistent across different Member States. Due to variation among countries regarding the formation of national educational policy, it is hard to give definitive guidance on how to engage with the framework on the national level.
- National Operators should take a proactive approach towards DIGCOMP – in order to stay informed and influence the adoption of the framework in their countries.
6 Annex 1. DIGCOMP Mapped Against ECDL Base Modules

The following table maps DIGCOMP against ECDL. The left side of the table contains DIGCOMP structure by competence area (e.g. 1. Information) and competence (e.g. 1.1. Browsing, searching and filtering information). The right side of the table demonstrates the coverage of ECDL Skillsets from ECDL Base Modules (OE – Online Essentials, CE – Computer Essentials, WP – Word Processing, SS – Spreadsheets).

To keep the mapping simple, DIGCOMP proficiency levels (Foundation, Intermediate and Advanced) are not provided. More detailed mapping, as well as a reversed mapping from ECDL to DIGCOMP are available, and can be provided upon National Operators’ request.

<table>
<thead>
<tr>
<th>DIGCOMP Framework</th>
<th>ECDL Skillsets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Information</strong></td>
<td></td>
</tr>
<tr>
<td>1.1. Browsing, searching and filtering information</td>
<td>OE 1.1, OE2.1, OE3.1</td>
</tr>
<tr>
<td>1.2. Evaluating information</td>
<td>OE3.2</td>
</tr>
<tr>
<td>1.3. Storing and retrieving information</td>
<td>CE2.1, CE3.1, CE4.1, CE4.2, OE2.3, OE2.4</td>
</tr>
<tr>
<td><strong>2. Communication</strong></td>
<td></td>
</tr>
<tr>
<td>2.1. Interacting through technologies</td>
<td>OE4.2, OE4.3, OE5.1, OE5.2, OE5.4</td>
</tr>
<tr>
<td>2.2. Sharing information and content</td>
<td>OE5.1, OE4.1</td>
</tr>
<tr>
<td>2.3. Engaging in online citizenship</td>
<td>OE2.1, OE4.1</td>
</tr>
<tr>
<td>2.4. Collaborating through digital channels</td>
<td>OE4.1, OE5.5</td>
</tr>
<tr>
<td>2.5. Netiquette</td>
<td>OE4.1, OE4.2.4</td>
</tr>
<tr>
<td>2.6. Managing digital identity</td>
<td>OE1.2, OE4.1</td>
</tr>
<tr>
<td><strong>3. Content Creation</strong></td>
<td></td>
</tr>
<tr>
<td>3.2. Integrating and re-elaborating</td>
<td>WP1.1, WP2.2, WP6.2, SS1.1, SS2.2, SS7.2</td>
</tr>
<tr>
<td>3.3. Copyright and licences</td>
<td>CE1.3, OE3.3</td>
</tr>
</tbody>
</table>
### 3.4. Programming

| CE2.3 |

### 4. Safety

<table>
<thead>
<tr>
<th>4.1. Protecting devices</th>
<th>CE1.4, CE6.1, CE6.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2. Protecting personal data</td>
<td>OE1.2</td>
</tr>
<tr>
<td>4.3. Protecting health</td>
<td>CE6.3</td>
</tr>
<tr>
<td>4.4. Protecting the environment</td>
<td>CE6.3</td>
</tr>
</tbody>
</table>

### 5. Problem solving

| 5.1. Solving technical problems | CE1.2, CE2.3 |
| 5.2. Identifying needs and technological responses |
| 5.3. Innovating and creatively using technology |
| 5.4. Identifying digital competence gaps |