# DEVELOPING DIGITAL COMPETENCES FOR CREATIVE INDUSTRIES - DIGICULTURE COURSES

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## Abstract

In todays' fast changing world and where increasingly the learning is online, even for those with limited digital skills, the development of courses designed for adults training program is necessary. The Erasmus+ Digital Culture project, which aims to create a sustainable and efficient educational program dedicated to adult learners with low digital skills and low-qualified adults involved in the creative industries sector from Romania, Italy, Austria, Denmark, Lithuania, UK and Ireland. The multilingual online courses are hosted on the UniCampus platform, which is the first MOOC platform in Romania open to all universities. In this paper, we present the development and evaluation of the DigiCulture online courses, hosted on the UniCampus platform. The paper introduces the 13 short online courses and discuss how they can be used also during the current pandemic situation and in the future to improve relevant digital competences of adults.

Keywords: Digital competences, digital culture. MOOCs, OER, collaborative course development.

## 1 INTRODUCTION

We live in a fast-changing world, where we often have the feeling that we must keep ourselves studying over and over again. A helpful solution to this human need can be the existence of MOOCs (Massive Open Online Courses), which offer a large variety of courses that are designed to be accessible by anyone, from any location. An interesting project is the Erasmus+ Digital Culture project, which aims to create a sustainable and efficient educational program dedicated to adult learners with low digital skills and low-qualified adults involved in the creative industries sector from Romania, Italy, Austria, Denmark, Lithuania, UK and Ireland. The DigiCulture project is developed in a diverse partnership formed by educational institutions and creative industries stakeholders: Politehnica University of Timisoara, Romania (coordinator), Roma Tre University, Italy, Aalborg University, Denmark, Graz University, Austria, Dublin City University, Ireland, Timisoara European Capital of Culture Association, and InterArt Triade Foundation from Romania, JME Associates Ltd, UK, National Association of Distance Education, Lithuania and associated partners EDEN and Culture Action Europe (www.digiculture.eu).

The multilingual online courses are hosted on the UniCampus platform, which is the first MOOC platform in Romania open to all universities. In this paper, we present the development and evaluation of the DigiCulture online courses, hosted on the UniCampus platform. The paper introduces also the 13 short online courses designed to improve relevant digital competences of adults and the process for their development. The DigiCulture course are designed on a MOOC type platform – UniCampus – following the MOOC development guidelines, as consider a MOOC as being an online course, addressed to an unlimited number of participants, sustaining an open education [1].

The training program Digital Skills and Social Inclusion for Creative Industries (DSC) is be developed as an online course, based on Massive Open Online Courses (MOOCs) concepts, and integrated Open Educational Resources (OER) and tools, and designed especially for low digital skills adults [2] . The training program and courses development are based on the results from an extensive research which led to define the Guidelines for Digital competences for Creative Industries [4]. The DSC training program is implemented in the virtual learning hub, an online learning platform, Moodle-based and staringly customized, UniCampus [3] which was enhanced and translated in all partners languages. The DSC training program introduces also open credentials, as for each course completion, learners will be awarded an open badge, validated through the activities and assessment built in each course and awarded by each course coordinating university [5].

# 2 METHODOLOGY

## 2.1 DSC Methodology

The development of the Guidelines for Digital competences for Creative Industries started from the general framework "DigComp 2.1: The Digital Competence Framework for Citizens" [6], and focused on the five digital competency dimensions described in the framework:

1 Information and data literacy

2 Communication and collaboration

3 Digital content creation

4 Safety

5 Problem solving.

Despite the usefulness of the DigiComp 2.1 framework, it does not provide specific directions regarding the role of these skills in the Creative industries sector (which is the focus of the DigiCulture project). For this reason, further research was conducted in order to understand how the five general digital competency dimensions, described in the DigiComp 2.1 framework, could be better contextualized and understood in the CI sector. This research consisted of a systematic literature review and quantitative surveys (n=148) and interviews (n=21) conducted with a sample of stakeholders from the CI sector – the results are published in [4].

Digital Skills for Culture Course is designed based on Conole's 7Cs Framework of Learning Design [7], using innovative methods such as the MOOC Design Canvas [8], "Learning through Design" [9] . Principles will included "sMOOC Step by Step", but also take into consideration quality standards (Quality Assurance Subjects Benchmark Statements and the framework of European Cooperation on Adult Learning Policy and the Quality Assurance in Non- Formal Adult Education [10] and national regulations regarding adult education) - as a free Massive Open Online Course – MOOC based on Open Educational Resources (OER) [11] [12] .

The courses promote an innovative approach that includes several methods of learning design, familiar to the university partners who all have experience in online course design, in MOOCs development and in providing support in blended learning.

We expect that this course will have an impact at different levels on the learners - as well as improving their digital skills, it will introduce adult learners to self-regulated learning by rethinking the assessment process. By scaffolding their further development, it will also increase the success rate for cultural actors from vulnerable socio-economic classes (who can have better access to know-how).

## 2.2 International collaborative course development

The course development is based on collaborative course development process [13] at international level, as each of the course is developed by a team of professors from at least 2 partner universities and creative industries organization or institution, coordinated by an experienced professor from a leading university which coordinates the whole process, different internal evaluation stages, content, course content production and assessment. In our methodology, the extent of collaboration depends on the degree of course development and revision required, the nature of the established relationship between the faculty member and designer, and the level of experience of the faculty member.

The design team composed of project partners encouraged the exploration of various teaching and learning models and leverage digital tools to create an adapted and personalized learning experience for adults, supporting networked learning and reflection.

The new principles, which are now implemented in courses for digital skills designed for continuing education include: new course materials using simple terminology, multimedia examples, interactive online activities, real-life problem-based exercises, building e-portfolios, e-assessment and peer-to-peer assessment, reflection in blogs, but also are using existing OERs and examples provided by the cultural and creative industries organizations or institutions. The courses are built to encourage collaborative learning by including discussion forums, wikis and teamwork activities [14].

Based on our previous experience each course is designed to provide learners with a clear course map, with milestones and "must do's", and a schedule with tasks, assignments. These are planned as to increase the perception of learners as active participants in the course, with the final purpose to

improve their engagement in order to avoid drop-out and to empower them to become independent learners.

The course development process implied the following steps:

1 refine the course goals, design the concept and curricula for the whole DSC training program with diverse activities to foster digital skills,

2 define and design each course modules,

3 design, develop each course module content using new materials, existing and producing new OERs,

4 develop evaluation and assessment methods and tools,

5 adapt the course materials from English into national languages,

6 refine the course after the MOOC piloting phase 1.

At each development step, the contribution of cultural and heritage experts from the cultural and creative industries organizations or institutions were used to assess the validity and quality of the materials proposed.

This paper analyses the DSC training program course development and the evaluation performed in Romania with the contribution of cultural and heritage experts from the cultural and creative industries organizations or institutions.

# 3 RESULTS

## 3.1 Digital Skills for Culture Courses

All project partners were involved to build a valid curriculum, by refining the course goals, in order to fit the latest digital media innovations and requirements of the cultural sector, to include the Guidelines and design the concept and curricula for the Digital Skills for Culture Courses as a unified training program. Each course module is planned to respond to one or two competences DigComp2.0 [6] and to cover the transversal competences of communication and collaboration.

The Curricula for the Digital Skills for Culture training program is:

1 The Internet, World Wide Web and introduction to the digital world

2 Digital content & Publishing

3 Data Protection and Open Licenses

4 Digital Curation - Digital Libraries and Museums

5 Digital Safety, Security and Ethics

6 Digital storytelling

7 Social media for culture

8 Digital audiences, Digital analytics

9 Augmented and Virtual Reality - Immersive experiences

10 Mobile Apps and Mobile User Experience

11 Digital management in culture

12 Digital Communication & Presentations

13 Online and mobile digital media tools (audio-video)

In the collaborative course development process, each stage was evaluated. Based on the DSC agreed curricula discussed with the cultural stakeholders, the partners developed in more detail each course module syllabus to ensure that the modules do not overlap with each other, and that the course as a whole covers all the important areas for building up digital skills for the culture and heritage sector.

Each course syllabi contains information about:

- General information about the course - Title of the course; Course leader: University/ Faculty/ department; Course authors; Training level; Course duration; Course target group;
- Competencies acquired through the course - General competencies; Digital competencies based on DigComp 2.1;
- Course Objective; Course prerequisites and connection; Course learning outcomes; Course Content, estimated Learning Hours, Type;
- Activities; Case study title and short description (Number of hours, Type, Language / Country, URL );
- External OERs; Evaluation and assessment; DigiCulture Course Badge; References, Bibliography.

The course curricula and syllabi were evaluated in interviews and face-to-face survey, during several workshops in Rome, Dublin and in Graz, workshop in Timisoara with more than 50 stakeholders from Creative industries. The results are included in the new syllabi and into the development of course modules.

## 3.2 Digital Skills for Culture Syllabus Evaluation

This paper analyses the DSC training program course development and the evaluation performed in Romania with the contribution of cultural and heritage experts from the cultural and creative industries organizations or institutions.

The evaluation was performed using two methods: experts' interview and focus groups. Next, we present the results for the evaluation of each of the 13 course modules, course content and tools to be used for activities, examples or assignments.

The evaluation was performed in December 2019 – January 2020 and it was done using face-to-face interviews, online interviews and focus group. The participants are from Romania, mainly from Timisoara, and represent several creative industries and all levels of employment – self-employed, curator, up to manager position. The experts' profile can be seen in Figure 1.

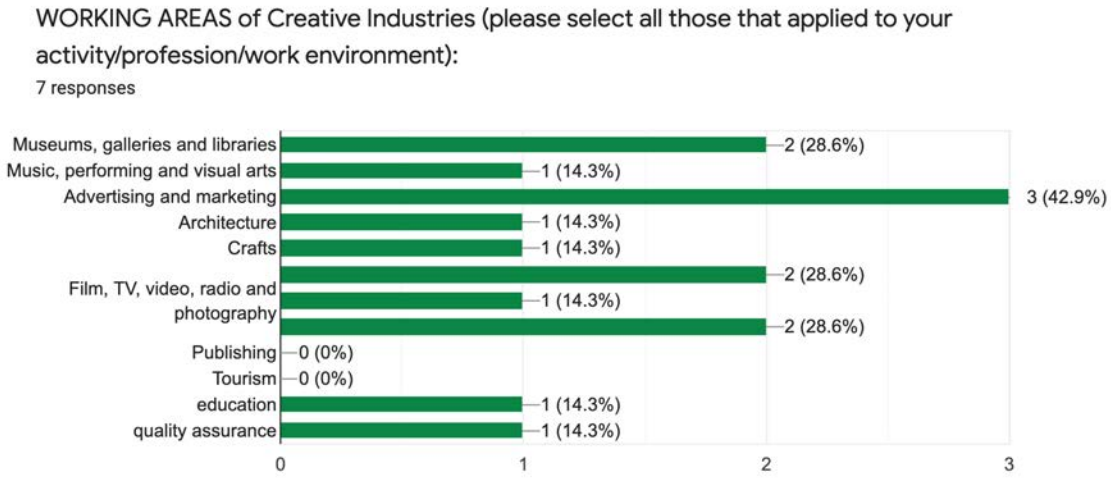


*Figure 1 The experts' profile*

For each of the 13 course modules syllabus (with information on course content, applications and tools, OERs), based on a Lickert-scale answers with "a scale 1 to 5 1 = never, 5 = daily, 0 = I do not know" we asked two questions:

- How often do you use it?
- How important is it for your work?
- We present here some of the results of this evaluation.

For the module "The Internet, World Wide Web and introduction to the digital world", results are presented in figure 2. The experts declared that the most used tools are Google Drive, user-generated

content apps, searching the web and other Google apps while the less used are explanations to cables and connections, archive.org and menti.com. In terms of importance, Google Docs, online searching, user-generated content apps and basic hardware and connection knowledge are deemed most important, while menti.com and archive.org are considered less important.

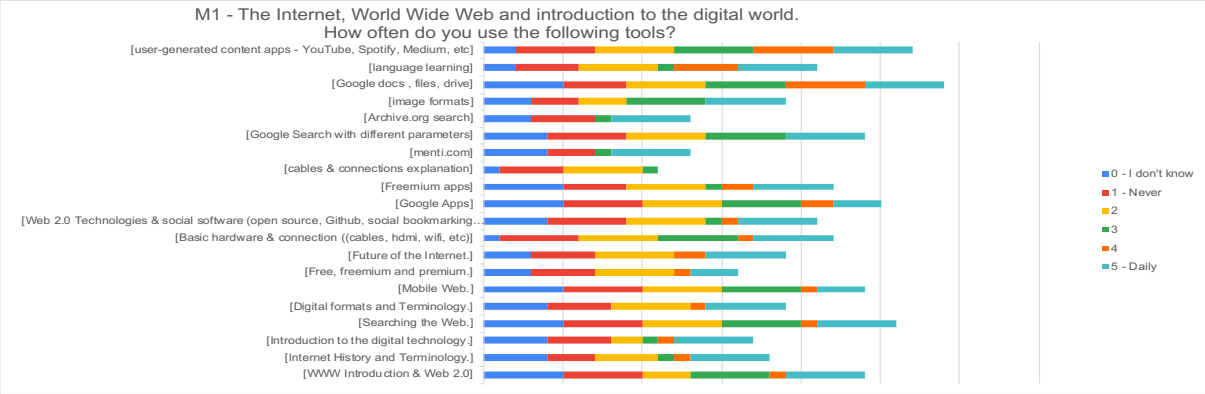


*Figure 2 How often the tools included in module 'The Internet, World Wide Web and introduction to the digital world' are used*

For the module Digital content & Publishing the results are presented in Figure 3. The most important tools are considered by the experts, repositories and online libraries, eBooks, various media contents and newsletters while the less important are considered the tutorials for Wikipedia, DRM and Medium. Most used are by far repositories and online libraries, while less used are DRM and Wikipedia.

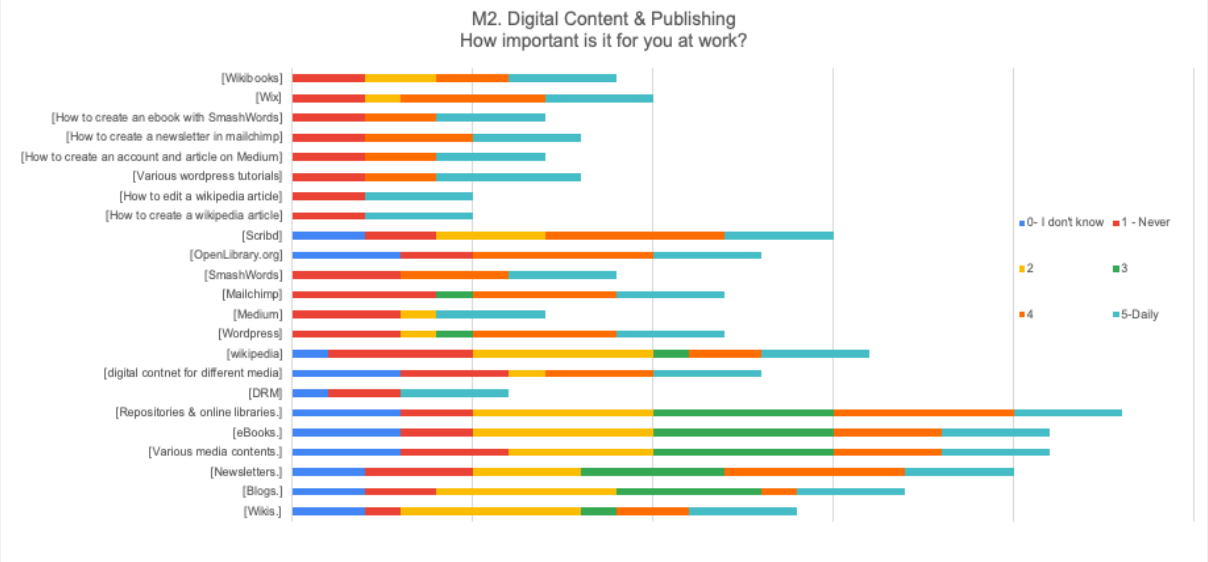


*Figure 3 How important are the tools for the creative stakeholder work, included in module 'Digital content & Publishing'*

For the Module "Data Protection and Open Licenses", the results are presented in Figure 4. The most used tools by the creative stakeholders are all related to open licenses (Creative Commons) while the less used are the definitions of each CC licence, which intrigued us. Also, with low scores was the risk of vendor lock-in. Most important was considered the topic on Privileges for the cultural sector, attaching CC licenses, GDPR, open licenses and copyright. Less important were detailed explanations of various licenses and also the international framework.

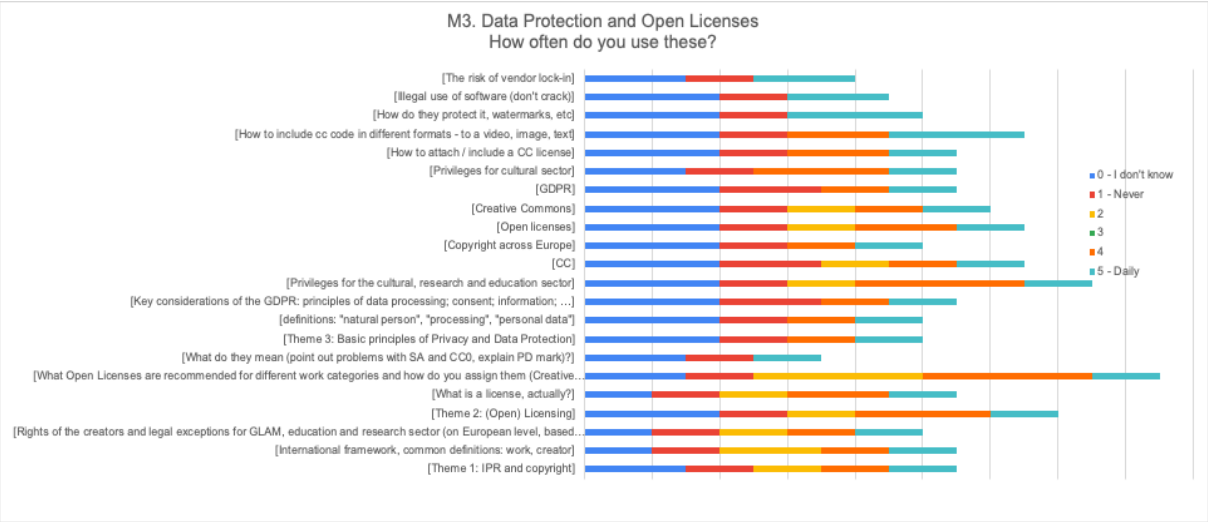


*Figure 4 How often the tools included, included in Data Protection and Open Licenses are used*

For the Module Digital Curation - Digital Libraries and Museums the results are presented in Figure 5. Based on experts evaluation, the most used tools in their work are sharing of online collections, digitisation and virtual exhibitions. The less used tools from the one we asked about are Omeka, GAMS, Qlone and Knightslab tools. Most important is considered the digitisation, data models, metadata and standards while less important are Omeka, GAMS and Qlone.

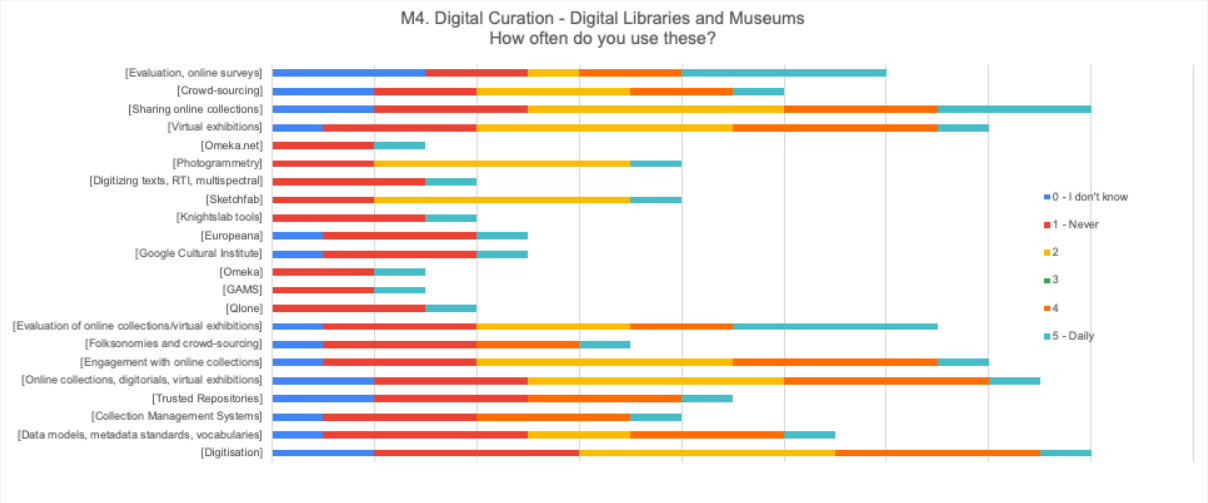


*Figure 5 How often the tools included, included in Digital Curation - Digital Libraries and Museums are used*

For the Module Digital Safety, Security and Ethics the results are presented in figure 6. This was considered an important module by the creative industries stakeholders, they considered the most important the need for tutorials on social media settings, cookies and privacy tools for browsers. The lowest in importance is the overview of digital SSE. From all modules, here we had the lowest scores in term of frequency of use. Most used are protecting yourself and your work together with ethical practices and tools on social media and online. Less used are the overview and principles of SSE.

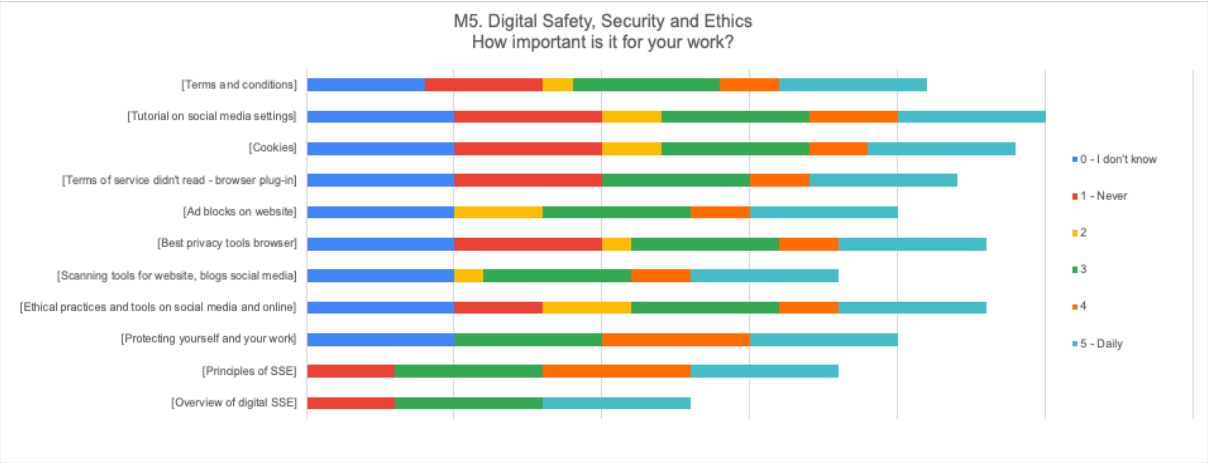


*Figure 6 How important are the tools for the creative stakeholder work, included in module 'Digital Safety, Security and Ethics'*

For the Module Augmented and Virtual Reality - Immersive experiences the results are presented in Figure 7. Most used by the creative industries experts are the creation of interactive VR scenes, creation and exploration of a VR scene and also the VR/AR case studies while less used is Vizor. Most important topics are considered to be the AR/VR case studies, creating and exploring a VR scene but also making this scene interactive and the less important are considered Visor and HP Reveal Studio.

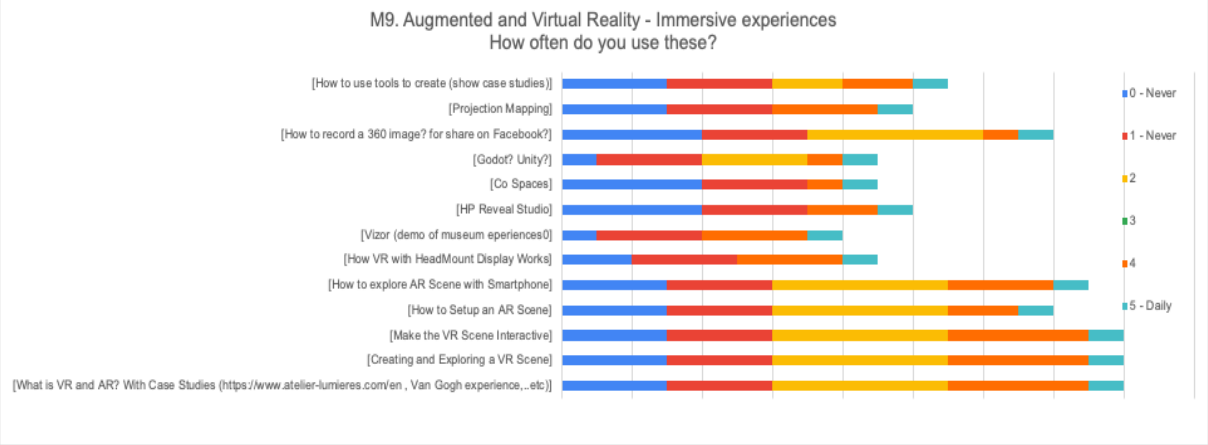


*Figure 7 How often the tools included, included in Augmented and Virtual Reality - Immersive experiences are used*

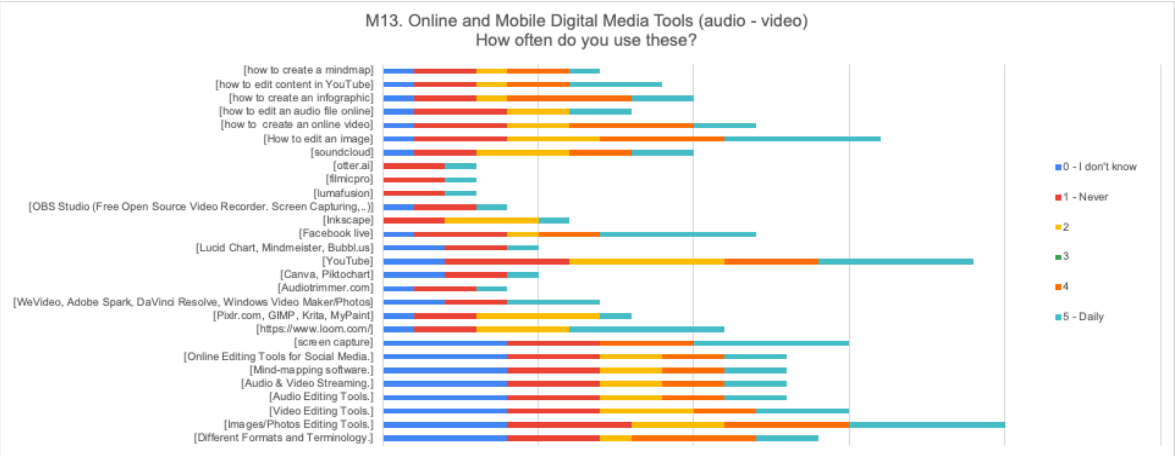


*Figure 8 How often the tools included, included in Online and mobile digital media tools (audio-video) are used*

For the Module Online and mobile digital media tools (audio-video) the results are presented in Figure 8. The highest scores were received by Image editing tools and YouTube. The lowest score for use was received by otterai, filmicpro, lumafusion and Audiotrimmer. Most important tools are image editing ones, screen capturing and YouTube tutorials while less important are considered OBS Studio, filmicpro and lumafusion.

Overall, all participants were interested in taking a course such as those designed by DigiCulture, with their main aim to understand better how to promote their work online, also in compliance to legal regulations.

The DSC training program based on the 13 MOOC courses is now fully integrated in the Virtual Learning Hub as an online component on UniCampus learning environment and easy-to-access features in the mobile app.

## 4 CONCLUSIONS

Successful courses require careful planning and continual revision. It is important to define successful strategies and collect feedbacks from learners taking the course. Course planning is a continual process in which all the steps above are strongly connected, and it will undergo continuous revision during the piloting activity. In this paper we present the evaluation process of the 13 syllabuses, course structure and content for the MOOC courses part of the training program Digital Skills and Social Inclusion for Creative Industries (DSC). The courses development combined several innovative instructional methods by using international collaborative course development process, exploration of various teaching and learning models, and leverage digital tools, OERs and study cases provided by the cultural and creative industries organizations or institutions. As an immediate result of this process we can identify an increase of the courses quality, the interaction and the breadth of the study cases and tools presented, as well as building of a learning community formed by university professors, cultural actors and creative industries stakeholders.

## ACKNOWLEDGEMENTS

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