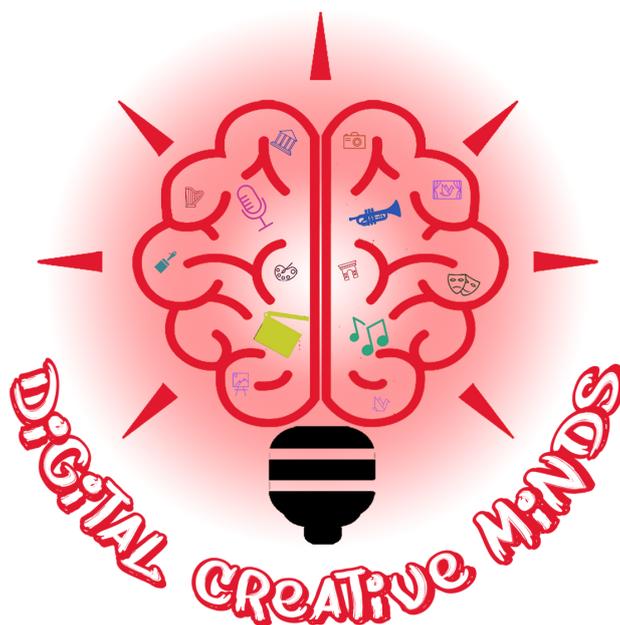




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01.3- DIGITAL COMPETENCES FOR CULTURE AND CREATIVE SECTORS GUIDELINES



2020-1-DE02-KA227-ADU-007933



Digital Creative Minds

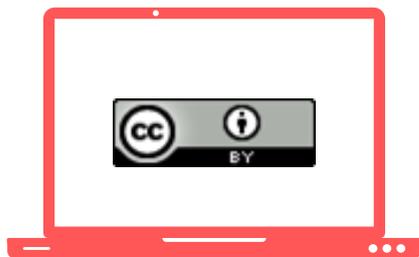
Strategic Partnership in the field of Adult Education



Project consortium



MusikArt
Associazione culturale



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I. About Digital Creative Minds

“Digital Creative Minds” is a European project funded by the European Union through Erasmus+ programme (Project ID: 2020-1-DE02-KA227-ADU-007933). The project is led by Copernicus Berlin e.V. (Germany) in partnership with Giardini Naxos Municipality (Italy), Sevlievo Municipality, (Bulgaria) Asociación EuropeYou (Spain), Nooruse Maja (Estonia) and MusikArt (Italy).

The main aim of “Digital Creative Minds” (DCM) is to create a sustainable and efficient education program dedicated to adults’ learners with low digital skills involved in the cultural and creative sectors (CCS). DCM will enhance awareness of the need for training in digital skills for the CCS and will focus on openness and inclusive in education. DCM will involve the use and development of an open online course on Digital Skills and Social Inclusion for CCS, built as a Massive Open Online Course (MOOC), an innovative adult educational program available in English and all partners languages as Open Education Resource (OER) and accessible to adults with limited digital skills.

DCM partners will realize the following outputs:

- Digital Competences for CCS guidelines
- Online platform
- MOOC courses
- Position Paper on training investments and OERs for raising digital skills in CCS

The project will be an item on the curriculum of each organization and it will be incorporated in the learning and pedagogical activities of all project partners. The main idea of this project is to bring innovations and better-quality adult work and new high-level adult work services to adult learners involved in CCS.

Following, the project will have direct, positive effects not just on project target group but also on partners’ organizations and their staff of adult educators as they will acquire more specialized knowledge on adult learners and on the importance to acquire digital skills to effectively work in CCS.

Adult learners will be introduced to the MOOC courses (IO3), a self-regulated learning available as OER in English and all partners languages (Bulgarian, Estonian, German, Italian and Spanish). By scaffolding their further development, the MOOC courses will not just increase their digital skills but also increase the success rate for adult learners involved in CCS from vulnerable socio-economic classes (who can have better access to know-how).



II. Introduction to Digital Competences for CCS guidelines

The following document “Digital Competences for CCS guidelines” outlines the theoretical framework that will be used to develop the DCM MOOC courses, integrating the results of the research carried out by the partner consortium in IO1.1 and IO1.2, namely the “Conceptual Framework for digital competences for CCS” and the “European and National research of digital competence validation”.

In particular, the “Conceptual Framework for digital competences for CCS” aimed to share materials and reflections on the development of Digital competences in cultural and creative sectors for the promotion of transversal skills and social inclusion. This document emphasized the problems related to the development of digital resources and their integration into various cultural environments and in the CCS education area. The research aimed to consolidate the theoretical basis of DCM project, to identify the digital competences most promoted in CCS adult education contexts as well as to identify the pedagogical and operational indicators for the creation of effective educational interventions in the promotion of digital skills for CCS adults’ learners.

Moreover, the research for the “European and National research of digital competence validation” was implemented by using a survey as data collection tool, conducted in the five project partner countries Germany, Italy, Bulgaria, Estonia and Spain, from September 10th 2021 to October 15th, 2021. A total of 392 adult learners with low digital skills working in CCS took part in the survey.

Among the specific goals of the study were:

- to find out the current needs of digital skills and knowledge of adult learners working in CCS, following the five digital competence dimensions defined by DigComp 2.1 (2017);
- to understand to what extent their work, business or practice have been affected by COVID-19;
- to find out what is their perception of usage of online courses, MOOC type, for improving competences and skills of adult learners working in CCS;
- to identify adult learners’ current level of preparedness of using digital tools effectively.

Finally, the following document “Digital Competences for CCS guidelines” will aim to summarize the findings of the two previous researches, outlining the digital competences more relevant to the CCS, the skills needed at different work levels and cultural areas as well as the most promising pedagogical and technology-enhanced learning concepts, approaches and methods in achieving better digital skills for CCS adult learners that should be addressed by the DCM MOOC, according to the specific participants needs.



III. An overview of the Cultural and Creative Sectors

As defined by the European Commission in EU Regulation No 1295/ 2013 on the Creative Europe Programme:

*“CCS means all cultural and creative sectors whose activities are based on cultural values and/or artistic and other creative expressions, whether those activities are market- or non-market-oriented, whatever the type of structure that carries them out, and irrespective of how that structure is financed. Those activities include the development, the creation, the production, the dissemination and the preservation of goods and services which embody cultural, artistic or other creative expressions, as well as related functions such as education or management. **The cultural and creative sectors include inter alia architecture, archives, libraries and museums, artistic crafts, audio-visual (including film, television, video games and multimedia), tangible and intangible cultural heritage, design, festivals, music, literature, performing arts, publishing, radio and visual arts”.***

The definition in the Creative Europe Regulation is based on Eurostat’s work as part of the European Statistical System (ESS)-net Culture. The importance of the sectors comes within the fact that they are the centre of the creative economy and, moreover, ensure societies’ continued development. Not only do the sectors fortify social cohesion, but they also create many job opportunities within society. Most importantly, the sectors crucially contribute to the shared sense of European identity, the preservation of culture and values¹.

More specifically, between some of the CCS subsectors we have:

- Audio-Visual and Multimedia (Production, recording and distribution of motion picture, video and music; Radio and TV broadcasting; Publishing of computer/video games and computer programming activities)
- Architecture (building design and drafting/planning, town and city planning and landscape architecture)
- Book and Press (publishing activities, printing and retail sales in specialized stores; new agency activities; pre-press and pre-media services; translation and interpretation activities)
- Heritage, Archives and Libraries (library and archives activities; museum activities; operation of historical sites and buildings)
- Performing Arts (artistic creation; operation of arts facilities; performing arts and its support activities; employment placement agencies)
- Visual Arts (artistic creation, retail, printing and sale in specialized stores; photographic activities; specialized design activities).

¹ <https://ec.europa.eu/eurostat/web/culture>

<https://op.europa.eu/en/publication-detail/-/publication/5d33c8a7-2e56-11e8-b5fe-01aa75ed71a1/language-en/format-PDF/source-68820857>



It is crucial to outline the difference between *cultural and creative industries (CCI)* and *cultural and creative sectors (CCS)*. The term *cultural industries* have been around for more than 70 years. And while the cultural and creative sectors focus more on the activities within themselves, rather than on the financial side behind the ventures, the *cultural and creative industries* are more orientated towards the further product stages such as the production processes of the manufacturing operations. The definitions of the CCI, which are adopted on a national level strongly depend on both the country's needs and the scope, which is defined within the state's initiatives for development and its policy evaluations².

The content creation process or so-called artistic process lies of the heart of the CCS. The artistic content provides input for both the cultural as well as the creative subsectors of the CCS market. Indeed, beyond the classical CCS subsectors, the artistic content created has an impact on a wide range of industries that depend on the creative output stemming from CCS. For example, software and digital services are intertwined with many CCS value chains and rely on CCS content. The telecom services and hardware as well - e.g. the access to content is a key selling point for smartphones and computers. Moreover, cultural heritage, historical sites, recreation parts account for an important share of tourism. Other sectors closely related to the CCS include consumer electronics (TV, Tuners, Tablets), Industrial design, and Education (cultural and tertiary education).

IV. The digitalization of Cultural and Creative Sectors

There are several key trends that are reshaping the CCS, inspiring new business models and changing the ways of working. Specifically, during COVID-19 the CCS content was increasingly consumed digitally, creating a new form of distribution and consumption. However, although now people have an opportunity to attend cultural events in person, following the specific health measures in the country, the year of online engagement definitely transformed people's digital behaviours. A recent report released by Culture Restart³ about the interest in digital engagement post-pandemic show that *"41 percent of the respondents are keen on future participation, with those under 35 showing a remarkably higher interest. And while they might be less likely to engage, more than half of respondents said if they were unable to attend an in-person event, they would consider the option to participate online."*

The diversification of access points (e.g. internet, social media, mobile apps) and formats (e.g. podcasts) has gradually influenced consumer behaviour and widened opportunities to consume cultural content. The use of social media to access news has become more distributed worldwide. According to the Reuters 2020 Digital News Report, nearly 65% of the 2.4 billion internet users receive news from Facebook, Twitter, YouTube, Snapchat and Instagram instead of traditional news outlets. As consumer behaviour has shifted

²

<https://en.unesco.org/creativity/sites/creativity/files/digitallibrary/What%20Do%20We%20Mean%20by%20CCI.PDF>

³ <https://jingculturecommerce.com/culture-restart-audience-visitor-tracker-january-2021/>



towards digital channels, advertising spend has adjusted in response, shifting away from traditional advertising (e.g. print advertising). In some cases, this trend has been exacerbated during the lockdown imposed by the COVID-19 pandemic.

As consumer behaviour has moved towards digital channels, advertisement spending has adjusted in response, shifting away from print to digital advertising. Therefore, reports show that new formats such as podcasts could offer CCS opportunities to attract advertisers' attention as ways to capture and engage with consumer opening up opportunities for advertising-driven models. The current ongoing digitalization of services – both public and private – has led to an increased risk among the general population of being or becoming digitally excluded. Specifically, digital competences have become a crucial for all people working in the cultural and creative sectors.

Continuing advances in digital technologies, social media, and mobile devices such as smartphones and tablets, give the end user, the learner, much more control over access to and the creation and sharing of knowledge. More recently, developments in artificial intelligence for teaching and learning, virtual and augmented reality and simulations and serious games have further emphasized the importance of technology enabled learning. As the nature of work changes – more project-based work, flattened organizational structures, new human - technology relationships, more global networks, and supply chains – then the need for skills development and learning “on the job” become clear. Given the expectation that these developments will each accelerate and impact between 30-40% of all jobs, then constant learning becomes a driver for anytime, anywhere learning.

Work will change significantly over the coming decade. Recent innovations and developments in flexible, competency-based learning and assessment will give new impetus to online learning and work-related skill development. The creative industries are at the forefront of applying new technologies and are described as innovative and as state of the art in terms of adopting ICTs. Digitisation is profoundly changing our cultural experience, not only in terms of new technology-based access, production, and dissemination, but also in terms of participation and creation, and learning and partaking in a knowledge society. More and more companies are being interested in showing up the innovative digital use of the content rather than the conventional methods which were in use till now. Not only the audience but this is preferred by the mediators and in-between small scale third parties who are acting as an in-hand accessory support system inside the cultural field. They name such cultural companies as cultural digerati who are using the large database of the large digital audience for business revenues and the perks of digital skill for the smooth operational running across the organization and easy availability all across various geo-locations.

As it has been said many times that people are now indulging in digital art. This has been accepted all over the world and examples related to it can be found. Museums are setting up more elaborate and vigorous digital change in the form of online web auctions. Through this approach of transformation, we can initiate the concept of visitor centre innovation and the changes which can go hand in hand with other cultural activities. Along with this better understanding of the target customer and what is needed to be done for them. Not only this but many a times cultural foundations like the museums use digital



technologies to enhance the experience of the audience. It increases the interest and engagement of the customers for a longer period.

Digitization allows a bigger better relevant, strong audience base with foundation, easy billing. An organization like museums, art galleries, cultural heritage, etc. are using many technological reforms and digital transformation is one among it, it encourages better leadership, organization structure, business process as well as the investment. All the changes that occur within the organization is related to interaction of core basic system within main categories like assessment which includes planning and discovering then come the knowledge which includes acquiring knowledge next to it is the experience that means exploration of digital platform to increase the creativity and lastly sharing which has browsing of content, opinions through online digital platform.

All these categories are ultimately related to the functioning of the event companies for better footfall and capture the audience's attention toward art through digital transformation. This helps in scaling up the success and targeting them in an appropriate manner. This also enables companies to rearrange their projects as well as channels in a counter result which allows longer involvement of the audience. To sum it up, it can be said that digital transformation in the field of the CCS is not just one segmental work but a journey that is interconnected with the various divisions of the small ecosystem of the organization that works toward the goal of constant optimization.

V. Digital competences for adult learners in the CCS

Defining digital competences

The European Commission provides the following definition: “*Digital competence involves the confident and critical use of Information Society Technology (IST) for work, leisure, and communication. It is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet.*” (European Commission, 2007, p. 7). The EU framework of digital competences identifies the respective key components in five areas: information, communication, content creation, safety, and problem solving. To be competent, one needs instrumental skills, advanced skills and knowledge, and appropriate attitudes in applying these skills and knowledge.

This EU framework serves as a normative orientation in most European countries, and many EU countries have planned or already decided on a new national digital competence framework.

There are similar developments in other countries outside the EU. The World Economic Forum defines the term “*digital competences*” as a “*set of social, emotional and cognitive abilities that enable individuals to face the challenges and adapt to the demands of digital life.*” The DQ Institute defines it as “*having the necessary knowledge, skills and ability to adapt one's emotions and adjust one's behaviour to deal with the challenges and demands of the digital era.*” As part of it, the DQ Institute has identified eight aspects of



digital citizenship and concludes that “*these aspects are often overlooked as most people tend to focus on creativity and entrepreneurship*”.

Digital competences for adult learners in the CCS

As part of the “Conceptual Framework for digital competences for CCS” (IO1.1), DCM project partners have analyzed the digital competences in culture and creative sectors of adult learners based on the latest version of the Digital Competence Framework for Citizens (DigComp 2.1).

According to DigComp 2.1, there are 5 competence areas, which are composed by 21 competences and respective 8 proficiency level, namely:

1. Information and data literacy

- 1.1 Browsing, searching and filtering data, information and digital content
- 1.2 Evaluating data, information and digital content
- 1.3 Managing data, information and digital content

2. Communication and collaboration

- 2.1 Interacting through digital technologies
- 2.2 Sharing through digital technologies
- 2.3 Engaging in citizenship through digital technologies
- 2.4 Collaborating through digital technologies
- 2.5 Netiquette
- 2.6 Managing digital identity

3. Digital content creation

- 3.1 Developing digital content
- 3.2 Integrating and re-elaborating digital content
- 3.3 Copyright and licences
- 3.4 Programming

4. Safety

- 4.1 Protecting devices
- 4.2 Protecting personal data and privacy
- 4.3 Protecting health and well-being
- 4.4 Protecting the environment

5. Problem solving

- 5.1 Solving technical problems
- 5.2 Identifying needs and technological responses
- 5.3 Creatively using digital technologies
- 5.4 Identifying digital competence gaps



Moreover, each competence has 8 proficiency levels:

- Foundation – 1 and 2
- Intermediate – 3 and 4
- Advanced – 5 and 6
- Highly specialized – 7 and 8

More information and detail explanation about each level can be found [here](#).

The DigComp 2.1 framework defines the scope and the components of digital competence for citizens in a clear way, providing an overall, complete and shared understanding of what digital competence is, and offering an updated vocabulary based on consensus building with multiple stakeholders. In addition, guiding our partnership are the 5 areas of DigComp 2.1.

In order to identify the digital competences most needed by adult learners working in the CCS, project consortium has carefully analysed all 5 areas, identifying the digital competences most promoted in the CCS adult education contexts as well as the skills most needed at different working levels. Moreover, this research was supported by the findings of the “European and National research of digital competence validation” (IO1.2), the online survey carried out by project partners in the five partners countries.

However, before start summarizing the overall findings of both researches is important to mention that the DCM survey results show that

“Digital skills are important in our respondents’ daily work, as well as a majority of them expressed their willingness for improving those skills after COVID-19”

With regards to the **information and data literacy**, those skills are seen as important by adult learners in CCS, being “browsing, searching, data filtering, information and digital content” as the most required competence to acquire.

However, the nature of the CCS is characterized by rapid technological changes where constantly new and complex knowledge is created and demanded, those adult learners should also consider equally important the “evaluation of data, information and digital content”. Indeed, adult learners should know how to analyse, compare and critically evaluate the credibility and reliability of sources of data, information and digital content. They need to be always updated and be able to adapt quickly to a modern business culture, where digital transformation and innovation are leading, otherwise they might fall behind simply because they don’t have the agility and awareness to embrace the new waves of modern technology.

According to DCM survey results, the most selected skills to be improved in the category **communication and collaboration** are “sharing through digital technologies”, followed by “interacting through digital technologies” and “collaborating through digital technologies”.



Interaction and sharing through digital technologies for adult learners means being able to recognize and use all opportunities that technologies may bring to the sector. Indeed, the increased interaction of the cultural and creative sector with technologies has led to new forms of artistic expression and entirely new genres of art (e.g. new media art, digital art, video art); new understandings of creativity (e.g. in-museum, in-theatre and in-gallery apps); new materials, processes and tools for creative practices; new business models, digital market places, consumer groups and distribution channels, as well as entirely new ways of marketing and selling creative products, tools, apps and services. There are also new forms of user-producer interaction and collaboration; new virtual communities of creators and innovators; and new forms of creativity, such as human-free and computational creativity⁴. Thus, the DCM survey results once again proved that digital technologies interaction and sharing are very important for adult learners working in the CCS because it gives them an opportunity to create or join interest communities, enable participation, conversation and collaboration as well as multiply the exchange of ideas and knowledge.

However, although some artist and cultural creators throughout Europe have shown an enormous amount of creativity to ensure access to culture for all, the market potential of many digital opportunities born in Covid-19 times and the increased use of digital tools raised the concerns about the readiness of the sector to digitise. Particularly, for adult learners working in the CCS has not been as easy pathway to follow, due to the lack of specific digital competences and the pressure for a digital up-skilling for them become ever greater. Adult learners needed to rethink the way people interact and share with one another as well as discover different digital tools and platforms that can support their digital presence. Moreover, for adult learners working in the CCS, the digital world has been very limited because many of them lack appropriate digital skills and do not have legal rights to access related training, due to their specific working conditions and/or contracts.

Therefore, DCM MOOC courses will offer adult learners suitable materials covering the different topics such as information on how to know and define digital audiences, information about audiences and digital analytics (Facebook Custom Audiences Tool), Digital Analytics in social media platforms specific tools to measure and plan, as well as materials on how to expand digital audience and online presence. Adult learners will be introduced to the power of social media and its importance in the engagement in the CCS, as well as learn how to evaluate social media impact. Therefore, they will be able to promote their work using digital tools in order to develop their professional practice and career. With respect to the internal (with clients, artists) and external (general public) communication, adult learners will be introduced to different group of tools. Moreover, information about collaborative tools, content management tools and digital accounting tools in CCS will be offered to them. Adult learners should know how to vary the use of the most appropriate digital tools and technologies for collaborative process, having appropriate communicative and collaborative skills in order to be competitive in the today's increased digital market. Finally, different digital strategies will be given to adult

⁴ <https://www.tandfonline.com/doi/full/10.1080/17510694.2016.1247627>



learners for improving their digital presence as well as guidelines for following a proper netiquette.

According to DCM survey results, the most needed competences of our target group in the **digital content creation** area are “developing digital content” and “integrating and re-elaborating digital content”.

Indeed, if for the young generation, born and raised in the digital context, it is now normal to have a certain knowledge in the digital field, unfortunately, the same cannot be said for most adults, especially the one that are involved in CCS. Consequently, we have to consider that majority of them can experience difficulty when it comes to digital content creation, so trying to improve their abilities its crucial for their personal and professional development.

Moreover, also the survey results show that this group of skills is highly recognized by adult learners in CCS. Between the information to be included in the MOOC courses “online resources on how to re-elaborate and integrate my work with brand new techniques” was selected as the most required option (170 respondents), as well as by the second question in the survey specifically focused on “tools for creating digital content”, the second most selected option was “none of them” pointed out by 101 respondents. Therefore, tools or types of tools for digital content creation will be presented in the DCM MOOC courses.

Important to highlight is that according to DCM survey results, only 123 respondents (31.38%) know what is copyright and licensing, which means that a very big percentage of adult learners do not know how to protect and sell their own work.

Although, copyright and licensing are complex topics, they are very important nowadays. Indeed, adult learners need to know how copyright licences are working, because this is the common and often profitable way for artists to generate income from their work. Moreover, by using products and materials without having assigned copyright they can experience also a legal issue, so knowing what are copyright and licences is must. Anyway, DCM survey results also show that from those 269 respondents who doesn't know what copyright and licensing mean, 168 respondents are interested to learn more about. Also, the survey shows that those skills are the third most required skills by adult learners in the area “digital content creation”. To conclude, materials dedicated on the topic will be provided within DCM MOOC courses.

With regards to **safety** competence area, the most needed skills are “protecting data and privacy” (190 respondents), followed by “protect devices” (151 respondents) and “protect health and well-being” (102 respondents). Despite the growing attention digital safety is receiving in Europe, following the adoption of the GDPR regulation, no specific references on the topics of digital safety for adult learners in CCS were founded when partners conducted the first project research. Although people have heard about GDPR, they do not know how to apply it within their working practices.

Moreover, according to DCM survey result, a total of 155 respondents said that they will be happy to see within the MOOC courses “online advises on how to protect my device and digital content – online safety”. Therefore, such educational materials will be provided in the project online platform.



In addition, when conducting the research Conceptual Framework for digital competences for CCS (IO1.1), partners have found different reports published in the past few years, indicating that there are concerning trends in creative artist mental health caused by the use of social media. Multiple studies have shown a strong link between social media and an increased risk for cyberbullying, self-absorption, fear of missing, depression and anxiety, and even suicidal thoughts. Therefore, DCM project team think that is equally important for adult learners in CCS not only to know how to adapt the most appropriate ways to protect themselves from the dangers in the digital environment but also to know how to support other people if they experience bullying, addictions, or other health problems related to the use of social media. Consequently, additional information will be given in the MOOC courses.

Finally, with respect to the last competence area **problem solving**, the most needed skills for our target group were “solving technical problems” (161 respondents) and “creatively using digital technologies (136 respondents). Solving technical problems means for adult learners to identify technical problems when operating devices and using digital environments, and to solve them (from trouble-shooting to solving more complex problems). According to their own needs, adult learners should know how to differentiate technical problems when operating devices and using digital environments, and select solutions to them. Moreover, they need to access needs, evaluate, select and use digital tools and possible technological responses to solve them.

According to DigComp2.1, creatively using digital technologies means to use digital tools and technologies to create knowledge and to innovate processes and products. To engage individually and collectively in cognitive processing to understand and resolve conceptual problems and problem situations in digital environments. Therefore, online course aimed at developing digital problem-solving skills for adult learners in CCS will be included, as well as information about how to creatively use digital technology.

VI. Best methods and pedagogies for achieving better digital competences for adult learners in CCS

For the elaboration of the “Conceptual Framework for digital competences for CCS” (IO1.1), DCM project partners have analysed in detail the best methods and pedagogies for achieving better digital competences for adult learners in CCS, as well as what are the principles of adult learning in general. In particular, we will see also what are the benefits of effective online learning for adults.

Pedagogy and andragogy

Pedagogy is the theory and practice of learning, and how this process influences, and is influenced by, the social, political and psychological development of learners. Pedagogy, taken as an academic discipline, is the study of how knowledge and skills are imparted in



an educational context, and it considers the interactions that take place during learning. Pedagogy is often described as the act of teaching. The pedagogy adopted by educators shapes their actions, judgments, and other teaching strategies by taking into consideration theories of learning, understandings of students and their needs, and the backgrounds and interests of individual students.

Learning doesn't stop when we leave school. Many students will go on to attend colleges and universities, but in truth, the learning journey doesn't come to a halt here, either. Adults continue to learn for the rest of their lives - knowledge can always be improved. However, as we age, we learn best in different ways than we did during our youth. In the words of Malcolm Knowles, the American Educator, who continued to develop the system after the death of the German Alexander Kapp, Andragogy is this 'art and science' of instructing and teaching adults. As was said, andragogy refers to methods and principles used in adult education.

Two primary understandings of "andragogy" exist:

1. the science of understanding (theory) and supporting (practice) lifelong education of adults
2. in the tradition of Malcolm Knowles, a specific theoretical and practical approach. It is based on a humanistic conception of self-directed and autonomous learners as well as teachers as facilitators of learning.

Knowles collected ideas about a theory of adult education from the end of World War II until he was introduced to the term "andragogy". In 1966, Knowles met Dusan Savicevic in Boston. Savicevic was the one who shared the term andragogy with Knowles and explained how it was used in the European context. In 1967, Knowles made use of the term "andragogy" to explain his theory of adult education. Then after consulting with [Merriam-Webster](#), he corrected the spelling of the term to "andragogy" and continued to make use of the term to explain his multiple ideas about adult learning. Knowles' theory can be stated with six assumptions related to the motivation of adult learning:

- **Need to know:** To adults, it is crucial to know why it is necessary for him or her to learn something. Be aware of the advantages of learning, in fact, seems to be a highly motivating factor, both when those reasons are related to an improvement in the quality of life and when they lead to better work performances.
- **Experience:** Compared to younger learners, adults have more experience, and, in most cases, they gather their own identity from this background. This implies, on one side that adults training can reach better results if lies on previous knowledge and competences, with programs customised in terms of strategies and modalities. On the other hand, experience can lead to mental rigidity: therefore, adapting programs to real needs of learners becomes even more important.



- **Self-concept:** Growing up, learners acquired more self-awareness and move from being dependent – typical of children – to more and more autonomy. In training settings, then, it is crucial for the adult to perceive this independence, being able to make choices in relation to the learning process.
- **Readiness:** As we said, adult learning needs to be related to contingent needs: motivation thrives from being aware that acquired information are useful to solve daily problems, both in the personal and work life.
- **Problem orientation:** Adult's training should not be focused on content itself, but rather on its practical uses. About this, it is fundamental to present competences, knowledge, and abilities in this perspective, so that an adult is more willing to learn.
- **Intrinsic motivation:** Finally, the last Andragogy's principles is about motivation to learn. Specifically talking about adults, in fact, it is proved that intrinsic motivations are in any case stronger than external ones, such as prizes and incentives. This is related to self-determination (Deci and Ryan, 1985): according to this theory, people are led to change and grow by innate needs, competence autonomy and relatedness. Exploiting these mechanisms, the educator can therefore act as a facilitator and let the person motivate himself.
- Adult learning refers to the education and training pursued by mature learners. It is the process by which adults gain knowledge, competence, and skills, whether formally or informally. It emphasizes learning that is relevant to immediate application and the learners, usually college-aged or older, making sure they oversee their own development.

Adult learning is based upon comprehension, organization, and synthesis of knowledge rather than rote memory. There are seven Principles of Adult Learning⁵:

- **Adults must want to learn** – They learn effectively only when they are free to direct their own learning and have a strong inner and excited motivation to develop a new skill or acquire a particular type of knowledge, this sustains learning.
- **Adults will learn only what they feel they need to learn** – Adults are practical in their approach to learning; they want to know, "How is this going to help me right now? – Is it relevant (Content, Connection and Application) and does it meet my targeted goals."
- **Adults learn by doing** – Adolescents learn by doing, but adults learn through active practice and participation. This helps in integrating component skills into a coherent whole.
- **Adult learning focuses on problem solving** – Adolescents tend to learn skills sequentially. Adults tend to start with a problem and then work to find a solution.

⁵ <http://www.literacy.ca/professionals/professional-development-2/principles-of-adult-learning/>



A meaningful engagement, such as posing and answering realistic questions and problems is necessary for deeper learning. This leads to more elaborate, longer lasting, and stronger representations of the knowledge (Craik & Lockhart, 1972).

- **Experience affects adult learning** – Adults have more experience than adolescents. This can be an asset and a liability, if prior knowledge is inaccurate, incomplete, or naive, it can interfere with or distort the integration of incoming information (Clement, 1982; National Research Council, 2000).
- **Adults learn best in an informal situation** – Adolescents have to follow a curriculum. Often, adults learn by taking responsibility by the value and need of content they have to understand and the particular goals it will achieve. Being in an inviting, collaborative and networking environment as an active participant in the learning process makes it efficient.
- **Adults want guidance and consideration as equal partners in the process** – Adults want information that will help them improve their situation. They do not want to be told what to do and they evaluate what helps and what doesn't. They want to choose options based on their individual needs and the meaningful impact a learning engagement could provide. Socialization is more important among adults.

In conclusion, andragogy refers to the methods and approaches used in adult education and is directed towards self-actualization, gaining experience, and problem-solving. In contrast, pedagogy is an education method in which the learner is dependent on the teacher for guidance, evaluation, and acquisition of knowledge. The difference between pedagogy and andragogy:

Pedagogical	Andragogical
<ul style="list-style-type: none"> ▪ Learner is dependent on the teacher. Teacher is the one who evaluates progress and assumes full responsibility for what is taught and its efficacy. ▪ Learner comes to the table with little life experience. Child-like learning comes with a blank slate and the educator is one of the most influential figures, as peers likely have the same lack of experience. ▪ Learners advance once they have completed the necessary steps. Child learners are told what they need to do to master a topic in order to move onto the next one. 	<ul style="list-style-type: none"> ▪ Learner is depending on self. The method requires self-evaluation and direction, and self takes responsibility for the process. ▪ Learner uses life experience as a foundation. Instructors build on existing knowledge and require an understanding of diverse backgrounds. Adults learn from the instructor, but also from one another. ▪ Learning is triggered by any number of life experiences and not necessarily led by a designated instructor. Learners don't advance to another topic, but rather fill knowledge gaps as where needed.



<ul style="list-style-type: none"> ▪ Learning is prescribed by an instructor and sequenced in a way that makes logical sense. Topics are broken down into content units. ▪ Learners are motivated by external sources, such as parents and teachers. The topic is completed by a pass or fail grade. 	<ul style="list-style-type: none"> ▪ Learning is prescribed by self. Learners see a problem or knowledge gap and organize topics around life/work solutions. ▪ Learners are motivated by intrinsic means: self-esteem, quality of life, problem-solving, and the quest for recognition. Topics are completed by mastery.
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Online learning

Online learning is a popular form of distance education today. Online learning is education that takes place over the Internet. It is often referred to as “e-learning” among other terms. However, online learning is just one type of “distance learning” - the umbrella term for any learning that takes place across distance and not in a traditional classroom. There are several techniques for implementing effective online learning:

- **Blended learning** – Blended Learning is an effective strategy for utilizing your own expert’s knowledge in a highly targeted manner. Using this strategy, adult learners have a portion of their course delivered in real time either in a classroom environment or via a live distance learning portal, and a portion of their course via an asynchronous course model via an LMS (typically via learning objects, discussion forums, and online assessments).
- **Interactive tutorial-based training** – This is the most typical method of training. In a highly interactive environment basic and intermediate skills and knowledge can be presented in an effective manner that can be assessed and tracked as training materials are presented.
- **Simulation based training** – Simulation based training allows users to learn how to operate expensive machinery or work with complex computer software in a safe and easy to work in environment. It provides its end users a method of experimenting and learning in an environment that does not have severe or dangerous consequences if they make a mistake – all the while tracking their performance and educating them on best practices.
- **Case based training** – Case based learning is an excellent method of training users, utilizing real world case studies that the learners work through throughout their course. This provides the learners a situated experience in the course that is similar to challenges they will face on the job. Case based learning forces users to analyse their decisions in an environment that provides feedback that helps them get to the next step in the learning environment.
- **Problem based training** – Problem-based training emphasizes learning as a process that involves problem solving and critical thinking in situated contexts. It provides



opportunities to address broader learning goals that focus on preparing workers for active and responsible roles within their jobs. Learners gain experience in tackling realistic problems, and emphasis is placed on using communication, cooperation, and resources to formulate ideas and develop reasoning skills all the while tackling real problems faced in the workplace.

For designing the best e-learning course and experience for adult learners, it is best to use design model called ADDIE Model, which has five phases: analysis, design, develop, implementation and evaluation. During the course design, it is important to figure out what learning content type is the most suitable. There are many content types focused on e-learning:

- **Learner-centred content** - eLearning curriculum should be relevant and specific to learner's needs, roles and responsibilities in professional life. This kind of content like skills, knowledge and all kind of learning media provided to keep the focus on learner's end.
- **Engaging content** - Instructional methods and techniques should be used creatively to develop an engaging and motivating learning experience. It depends upon developing the storyboard that has to be based on a very engaging way of learning programs.
- **Interactive content** - Frequent learner interaction is needed to sustain attention and promote learning. Scenario based learning is a good example for this kind of learning media.
- **Personalization** - Self-paced courses should be customizable to reflect learner's interests and needs; in instructor-led courses, tutors and facilitators should be able to follow the learners' progress and performance individually.

Furthermore, a crucial aspect of what makes effective e-learning is that it respects its audience and makes good use of this time. After all, e-learning effectiveness is measured on whether it makes a difference to a person's behaviour or performance habits. Effective e-learning design considers modern learner trends and dives into the needs and habits of its end users. No thanks. E-learning effectiveness comes from solutions that are engaging, relevant and personalized. Successful e-learning homes in on specific help and actions individuals need to take to improve. It provides specific help in moments of need, and/or provides a targeted learning experience fit for the audience and their profiles.

For engaging adult learners, e-learning courses need to be useful - the mere fact that something is useful to someone gives them intrinsic motivation to use it. E-learning courses should have an emotional connection – having an emotional connection with content through immersive learning experiences, great storytelling and so on, that connect hearts as well as heads. Also, participation is important - reflecting, trying, practicing, failing, discussing, doing. Active learning and practice are the building blocks of effective



or “sticky” learning. They engage by involvement. Engagement is not the same as clicking or interacting with a screen.

Within the “European and National research of digital competence validation” (IO1.2), project partners have analysed what are the most suitable training delivery methods for adult learners in CCS, and in particular what is their perception about the online courses, MOOC type.

The findings have shown that “e-learning courses (e.g. MOOCs)” is the most preferred method for training delivery (208 respondents), followed by “virtual streaming services (93 respondents) and “face-to face learning with expert in the field” (88 respondents).

However, although respondents found MOOC courses suitable for learning, in total 297 of them said that they have never heard about such courses dedicated to adult learners in CCS in their countries. Following, survey respondents were asked if they would have an opportunity, are they willing to participate to such courses, and 238 of them said that they would be interested.

Apart of the kind of topics to be included in the MOOC courses which were previously mentioned in this document, participants were also asked what additional materials they would like to see. The result shows that 228 of them would prefer to have a quiz after each e-learning unit, followed by videos dedicated to the topics discussed.

Regarding the quizzes, DCM project team also believe that they can help users learn with practice, as quizzes allow them to think back to the information previously learned and remember it while quizzing. Indeed, when designing the project application and this specific project result, we already thought that that the quiz will be a suitable element of the DCM e-learning programme.

According different researches, with practicing quizzes, users can do critical thinking, and get into a habit of innovative learning. The quizzes integrate the game mechanism into the learning process, helping users understand the weaker areas with instant feedback. Quizzes are also seen as an interactive platform where users can gain knowledge, build motivation as well as quizzes can help them remember what they learned.

In conclusion, culture and creative sector is changing. Digitalisation is changing our cultural experience, not only in terms of new technology-based access, production, and dissemination, but also in terms of participation and creation, and learning and partaking in a knowledge society. For adult learners, the best learning methods are engaging, personalized and interactive e-learning courses, which help them to learn the basic skills and let them continue to develop their digital competences in order to use them in cultural and creative sector. Therefore, DCM project team will try its best to create suitable MOOC courses that can promote digital skills and competences to adult learners in CCS, reducing the risk of digital exclusion.



VII. Conclusion

The following document “Digital Competences for CCS guidelines” outlines the theoretical framework that will be used to develop the DCM MOOC courses, integrating the results of the research carried out by the partner consortium in IO1.1 and IO1.2, namely the “Conceptual Framework for digital competences for CCS” and the “European and National research of digital competence validation”.

The document contains guidelines for the promotion of digital competence to adult learners with low digital skills working or willing to work in CCS. In particular, the results described in this document will be used within the Digital Creative Minds project for the implementation and evaluation of online paths, through the DCM MOOC, an innovative adult educational program available in English and all partners languages (Bulgarian, Estonian, German, Italian and Spanish) as Open Education Resource (OER) and accessible to adults with limited digital skills. By scaffolding their further development, the MOOC courses will not just increase their digital skills but also increase the success rate for adult learners involved in CCS from vulnerable socio-economic classes (who can have better access to know-how).

The End

