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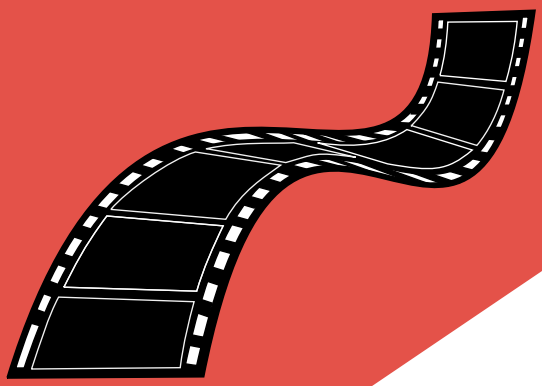
O1.1 – CONCEPTUAL FRAMEWORK OF DIGITAL COMPETENCES FOR CULTURE AND CREATIVE SECTORS

DIGITAL CREATIVE MINDS

2020-1-DE02-KA227-ADU-007933

Digital Creative Minds

Strategic Partnership in the field of Adult Education



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I. Introduction

The EU has strong and vibrant cultural and creative industries that are not only essential for Europe's cultural diversity, strengthening social cohesion and increasing Europe's attractiveness internationally, but they are among the continent's most dynamic sectors. Unfortunately, in the last years due to COVID-19 pandemic, Europe´s diverse cultural landscape is suffering severely and many actors in the cultural and creative sectors and industries are facing ruin, without public investment and aid. Moreover, the crisis has also highlighted the pre-existing vulnerabilities of the cultural and creative sectors and industries, including the precarious livelihoods of artists and cultural workers.

Although digitalization creates many opportunities in the sectors and should be embraced as a trend that will be part of our future, we should not forget that not all workers have access to online contents, neither enough digital competences. The inequalities in access to digital infrastructures have curtailed the fundamental rights of access to culture, the right of participating in culture and the right to express art. Following, the digitalisation in the creation, production, dissemination and accessibility of cultural and creative works must be seen as a priority for all EU Member States as well as workers with less developed digital skills should be offer suitable training opportunities.

The following document aims to share materials and reflections on the development of Digital competences in cultural and creative sectors (CCS) for the promotion of transversal skills and social inclusion. This document will emphasize the problems related to the development of digital resources and their integration into various cultural environments and in the CCS education area. The following research aims to consolidate the theoretical basis of the 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. In addition, the following research will help project consortium to select the content and digital competences to be promoted in the DCM online MOOC, Intellectual Output 3.

II. Cultural and Creative Sectors by Definition

As defined by the European Commission in EU Regulation No 1295/ 2013 on the Creative Europe Programme, the cultural and creative sectors are:

"*All 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, audiovisual (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 values[1].

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 evaluations[2].

There are currently a few challenges in front of the cultural and creative sectors. One of them being search engines and social platforms on the web, whose face presents big competition to the CCS. Secondly, even though the process of digitalization of the sectors presents a massive opportunity for growth, it also increases the competition between global creators. Moreover, due to Europe's cultural diversity, the cultural and creative sectors are being fragmented across national and linguistic borders. However, despite the large diversity, there are still somewhat of a limitation of transnational circulation of the sectors' products. And as the news media sector is part of the CCS, it is crucial to outline one of their biggest problems-disinformation. The European Commission believes that to

[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

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

overcome those challenges and increase the great potential to contribute to the labour market that the cultural and creative sectors hold, the member countries need to have a more generalized approach to the situation[3].

In order to support the cultural and creative sectors, the European Commission has established the Creative Europe Programme, which *supports cross-border cooperation and networking activities for all cultural and creative sectors and co-finances important platforms and network*[4]. The programme aims at:

- Helping the CCS seize the opportunities of the digital age and globalisation
- Enabling the sectors to reach their economic potential, contributing to sustainable growth, jobs, and social cohesion
- Giving Europe's culture and media sectors access to new international opportunities, markets, and audiences[5].

The Creative Europe Programme is open to cultural and creative organisations from the EU Member States, as well as non-EU countries[6].

As for the new programme period 2021-2027, the programme will be supporting cross-border partnerships and networks, which will help artists develop their creative capacities by collaborating with colleagues abroad. The programme will also invest in new collaboration models, in order to encourage the scaling up of Europe's cultural and creative sectors[7].

III. Cultural and Creative Sectors

The formally recognised individual cultural and creative sectors, also included in the definition of the term CCS, are as follows:

- Architecture
- Archives
- Libraries
- Museums
- Artistic crafts
- Audiovisual (including film, television, video games and multimedia)
- Design
- Festivals

[3] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A366%3AFIN
[4] https://ec.europa.eu/culture/sectors/cultural-and-creative-sectors
[5] https://ec.europa.eu/programmes/creative-europe/about_en
[6] https://ec.europa.eu/programmes/creative-europe/about_en
[7] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM%3A2018%3A366%3AFIN

- Music
- Literature and Publishing
- Performing arts
- Radio and visual arts.

Architecture

As described in the official Oxford dictionary, architecture is *the art and study of designing buildings*[8]. That is why the sector takes its rightful place among the cultural and creative sectors. Architecture began to be considered part of this group in the 1990s. In the EU Council Work Plan for Culture 2019-2022 architecture is described as *a discipline that encompasses the right balance between cultural, social, economic, environmental, and technical aspects for the common good* [9].

For thousands of years, the architecture sector has produced works that preserve a centuries-old history as they reflect on the culture they were designed for. That comes from the inner need of the architect, the creator, to seek a design that is appropriate for the place and time-being, which will also be useful to the general public. During the years, the alterations of the face of architecture have reflected the changes in society's cultural and social attitudes, needs and preferences[10].

Archives

The official Oxford dictionary defines the term archives as a collection of historical documents or records of a government, a family, a place, or an organization but also the place where these records are stored. The records that are part of the archives are chosen based on their cultural, historical and/or evidential worth. The most distinguishable difference between libraries and archives is that while both store works with artistic and cultural value, the archival records are usually not published and unique, almost always without any identical copies. Experts in the archives sector identify the archival works as necessary and naturally created, rather than being consciously written in order to share a specific message.

One of the biggest threats to the cultural heritage contained in the archives are individual countries' emergencies, natural disasters, or military conflicts. Nowadays, there are several organizations, such as UNESCO, who work for the preservation of the archives in accordance with the Hague Convention for the Protection of Cultural Property from 1954[11].

[8] https://www.oxfordlearnersdictionaries.com/definition/english/architecture?q=architecture
[9] https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1597921978169&uri=CELEX:52018XG1221(01)
[10] https://pdhacademy.com/2016/03/28/architecture-reflects-culture/
[11] https://en.wikipedia.org/wiki/Archive#cite_note-3

Libraries

The definition of a library is *a building in which collections of books, newspapers, etc. and sometimes films and recorded music are kept for people to read, study or borrow*[12]. For many years, especially before the mass digitalization of society, libraries have been the centre of culture, learning and knowledge. They are considered one of the main structures containing works with cultural value and similarly to archives, they are threatened by destruction. Therefore, organizations are working on the protection of libraries as places, part of a country's cultural heritage[13].

The process of digitalizing library materials has made the works holding cultural and artistic work more accessible than ever. Moreover, libraries are one of the most inclusive cultural and creative sectors. They provide knowledge and information to everyone, despite age, education, income, etc., almost always completely for free[14].

Furthermore, by encouraging learning and literacy, libraries are also enriching the artistic sectors. The library materials can serve as sources for inspiration of new artists, allow them to access their inner artistic skills, and promote active participation in local cultural and creative economies[15].

Museums

According to the International council of museums, the current definition, adopted in 2007, is that a museum is "*a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, research communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study, and enjoyment*[16]*"*. When it comes to accessibility, there are different types of museums. Some are open to the general public for free, while others require a tax to be paid by visitors. Museums present their available materials in the form of permanent or non-permanent exhibitions. They may also differ based on the type of works they exhibit- art museums, natural history museums, automobile museums, children's museums, war museums, science museums, military museums, ethnographic museums, etc.

Currently, one of the most famous museums in Europe are the Louvre in Paris, being the most visited museum in the world, the Tate Modern, Natural history museum and the British Museum in London, the Museum Island in Berlin, the Museo del Prado in Madrid, etc.

[12] https://www.oxfordlearnersdictionaries.com/definition/english/library?q=library
[13] https://en.wikipedia.org/wiki/Library
[14] http://www.ilovelibraries.org/what-libraries-do
[15] https://www.librariesconnected.org.uk/universal-offers/culture-creativity
[16] https://icom.museum/en/resources/standards-guidelines/museum-definition/

Artistic crafts

As described by the official Cambridge dictionary, artistic crafts are *the skills of making objects, such as decorations, furniture, and pottery (objects made from clay) by hand* [17]. Usually, those crafts involve materials such as clay, wood, metal, textile, paper or canvas and even plants. People are usually practising arts and crafts as a hobby, however, some are also making a living out of their creations. Many of those artistic skills have been known to man since ancient times. Back in the day, artistic crafts such as sewing and woodworking were very common. However, nowadays, there are fewer people who are familiar with them. In the technology-driven world we live in, we have got used to depending on machines, which can perform such artistic crafts instead of us. But despite that the capacities of those machines are at times bigger than people's, a handmade product will always be more valuable than a generic one made by a robot. This is the reason why some community centres have started to offer free arts and crafts lessons, in order to promote the growth of the artistic crafts sector and introduce more people to it.

Audiovisual

The audiovisual sector involves materials with both visual and sound components, such as films, videos, video games, television. The sector is considered *vital to safeguarding Europe's cultural diversity and sovereignty* by the European Commission. Supporting the audiovisual sector is seen as a way to improve the level of media literacy in the European Union and to make the sector more competitive. As a result of the support, the European Commission aspires to expand the distribution of audiovisual materials across Europe[18].

The digital revolution in the audiovisual spheres has brought as many challenges as opportunities. One of the biggest challenges determined by the European Commission is "*the need for professionals to develop new digital skills to improve the quality of the content and to increase the access of audiences to it"*. Currently one of the main goals of the Commission is to encourage the improvement of media literacy skills amongst citizens as a way to fight against the obstacles of the new digital age.

Design

As described in the Oxford dictionary, design is *the art or process of deciding how something will look, work, etc. by drawing plans, making computer models, etc*.[19]. In the past, the term applied arts was used instead of design. The design sector is rightfully taking its place amongst the cultural and creative sectors. A design includes elements of engineering, arts and production. When generating a design, the creator must take into consideration many factors such as functionality, applicability, the goals the project must achieve, the socio-economical background of the target group, etc.

[17] https://dictionary.cambridge.org/dictionary/english/arts-and-crafts
[18] https://ec.europa.eu/culture/sectors/audiovisual
[19] https://www.oxfordlearnersdictionaries.com/definition/english/design_1?q=design

Festivals

The official Oxford dictionary describes the festival as *a series of performances of music, plays, films, etc., usually organized in the same place once a year* and also as *a series of public events connected with a particular activity or idea* [20]. As seen from the formal description, festivals fundamentally involve in themselves many cultural and creative sectors. Festivals have been known to people since ancient times as well as there can be different types of festivals such as religious, artistic, seasonal, cultural, etc.[21].

Music

The music sector is considered by the European Commission as *vital to safeguarding Europe's cultural diversity and strengthening its competitiveness.* The Commission believe this sector has great importance for the economy and presents a unique way of artistic expression.

The digital revolution has made fundamental changes in the music spheres. In order to catch up with the new trends, producers and creators have to obtain and improve their digital skills and fight the increased global competition. Not only that, in 2020 the outbreak of the novel coronavirus has created many new obstacles for the music sector such as economical and structural changes[22].

Literature and Publishing

The publishing sector is one of the biggest in Europe. Its total market value is estimated to be around €36-38 billion. One noticeable proof for the richness and diversity of the sector are the half a million new titles, which are being published each year. Despite the wide diversity, many literary works are not accessible to all Europeans due to language and location barriers. Society's digitalization and the pandemic conditions have increased the sector's need for additional recovery and increase of literacy reading. One of the main objectives of the Creative Europe Programme is focused on fighting those challenges and strengthening the literature circulation in the EU[23].

Performing arts

This sector includes theatre, music, dance arts, which are always performed on stage in front of the public. The arts can be performed professionally. This artistic sector has been around for many years, dating as far back as Ancient Egypt. The performance can be for

[20] https://www.oxfordlearnersdictionaries.com/definition/english/festival?q=festivals
[21] https://en.wikipedia.org/wiki/Festival
[22] https://ec.europa.eu/culture/sectors/music
[23] https://ec.europa.eu/culture/sectors/books-and-publishing

a religious purpose, entertainment purpose or other. Through the performance, artists can express emotions and represent their cultural heritage in the form of a dance or song.[24]

Radio and visual arts

The Oxford dictionary describes the radio as *the activity of broadcasting programmes for people to listen to* [25]. Internet sources define the term visual arts as *art forms that create works that are primarily visual in nature, such as ceramics, drawing, painting, sculpture, printmaking, design, crafts, photography, video, film making and architecture* [26].

IV. The role of Digital Competences in the Cultural and Creative Sectors

Nowadays, the digital competences are increasingly important for the cultural and creative sectors. However, the ongoing digitization of services – both public and private – has led to an increased risk amongst the general population of being or becoming digitally excluded (Helsper & Reisdorf, 2016). This so-called digital turn poses a threat to all individuals who do not have the necessary skills to handle the digitization of the various life domains. Recent studies have shown that the socio-economic background of individuals is no longer solely responsible for digital exclusion, and that mechanisms of digital exclusion go beyond socio-economic vulnerable groups. Moreover, research by experts in the field, such as van Deursen and van Dijk (2014) and Helsper and Eynon (2013), highlights that digital skills and competences, and the ability to make use of digital media in an autonomous and strategic way, are of increasing importance to ensure users' full societal participation. This emphasis placed on the growing importance of digital skills and digital literacies contrasts with the lack of clarity and the lack of distinction made between the various types of digital skills, literacies and competences used in research, education or the field of e-inclusion: "The most immediately obvious facts about accounts of digital literacy are that there are many of them and that there are significantly different kinds of concepts on offer" (Lankshear & Knobel).

The development of digital skills and competences has, however, become a key element on the agenda of scholars, practitioners and policymakers worldwide in order to ensure citizens' ability to fully participate in today's increasingly digitized society. To this end, actors in the field often make use of conceptual models on digital literacy. As these models inevitably play a role in shaping the public debate on digital literacy, it is important to gain insights into the concepts and ideas they put forward. CCS are important for ensuring the continued development of societies and are at the heart of the creative economy. Knowledge-intensive and based on individual creativity and talent, they generate considerable economic wealth. More importantly, they are critical to a shared sense of European identity, culture, and values. In economic terms, they show above-

[24] https://en.wikipedia.org/wiki/Performing_arts
[25] https://www.oxfordlearnersdictionaries.com/definition/english/radio_1?q=radio
[26] https://www.unboundvisualarts.org/what-is-visual-art/#:~:text=The%20visual%20arts%20are%20art,video%2C%20film%20making%20and%20architecture.

average growth and create jobs, so they are more than crucial not only for the young generation but also for the adult one.

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.

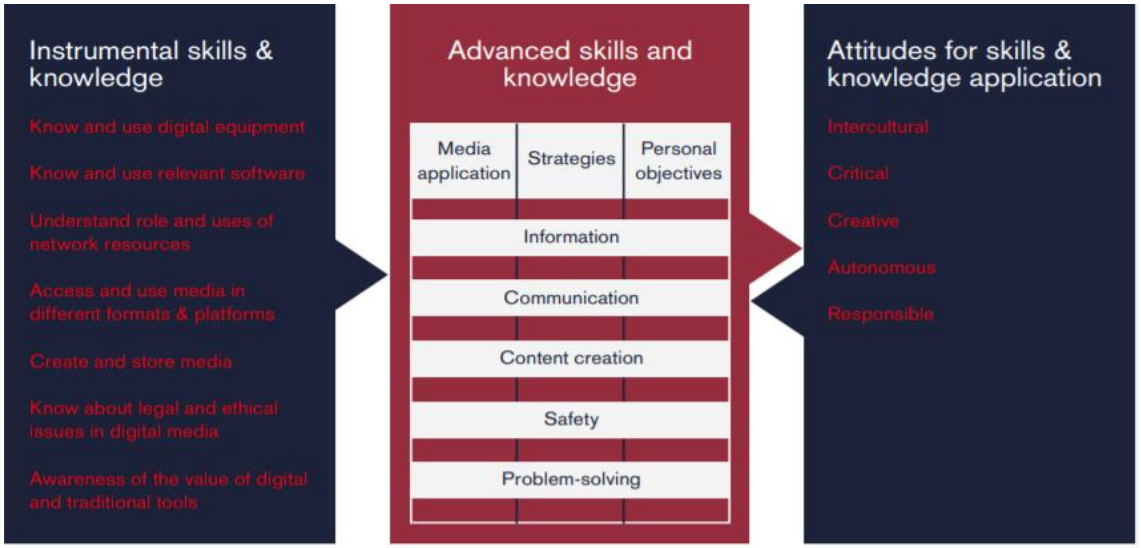

Figure 3.3. EU framework of digital competences, own representation based on Ferrari (2013) and Ala-Mutka (2011)

This EU framework serves as a normative orientation in most European countries. Many EU countries have planned or already decided on a new national digital competence framework. There is no doubt that digital competences have become a core competence in the 21st century.

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*".

Concepts of digital competences

Digital competence should play an essential part in a comprehensive education framework. Without a national digital education programme, command of and access to technology will be distributed unevenly and create new inequality – a digital divide on a new level, especially for adult learners.

In most countries, digital competence is given transversal status in educational policy. Existing studies indicate that many national curricula have moved towards integrating transversal competences as a response to the number of social, economic, and cultural changes brought on by the rapid development of information and communications technology. Therefore, the main challenge seems not to be whether a national curriculum is needed, it is rather the question of how and to what extent transversal competences should be expressed in national curricula, so they can involve adult educators through post-secondary institutions and provide professional development through their ministry of education or school boards and through nongovernmental organizations. The primary purpose of adult education is to provide a second chance for those who are poor in society or who have lost access to education for other reasons in order to achieve social justice and equal access to education.

Moreover, with the development of economy and the progress of society, the requirement of digital competences of adult learners has been raised, so governments need to find a way to enable its citizens to keep up with societal change. Digitalisation offers flexibility, simpler access, a wealth of potential multimedia resources, and ways to motivate adults to engage in learning. However, the introduction of technologies in adult learning has been slow, and the evidence (as opposed to the trumpeting) of its effectiveness is limited. Evidence suggests that there are problems around staff development, cost (both of the tools themselves and the infrastructure needed to best look after them, as well as necessary staff training) and in some places, a lack of connectivity.

Indicators for the development of digital competence

Recognising the crucial role of digital competence in today's society, the European Commission's 2010 Digital Agenda for Europe devoted a whole pillar to digital literacy, skills and inclusion. Furthermore, recognising the need for indicators to measure the extent of digital competence in Europe, one of the actions of the Digital Agenda was to "*propose by 2013 EU-wide indicators of digital competence and media literacy*" (action 62). Here below is the list of the "accomplished activities" basic indicators used to compute the digital skills indicators and the criteria used to attribute a basic/above basic level.

Annex IV: Indicators for the development of digital competence

	Getting to A	Moving from A to B	Moving from B to C
Information	• Understanding what a search engine is • Finding out how to do searches with simple words • Understanding how to save content and information • Understanding which information is covered by Copyright • Understanding that how to trust online information	• Finding out about and using effective search methods. • Finding out how to judge information and using these strategies. • Finding out how to maintain files and content regularly and implementing practices. • Understanding terms as copyright, copyleft and creative commons.	• Finding out about and trying a wider range of search techniques and strategies. • Finding out about how to cross-check and filter information and using these strategies. • Finding out about and trying a wider range of methods and tools to organise information. • Understanding about different types of licences and how to apply them.
Communication	• Finding out about different digital communication channels • Understanding how to use a few communication tools • Becoming aware of basic principles for communicating through digital means • Becoming aware of how to use technologies for cooperating with others	• Finding out about and trying more ways to communicate with others. • Finding out about and regularly using ways to shares files and content with others. • Ensuring that cooperative tools are used as regularly as possible and seeing opportunities when needs arise. • Finding out about online services • Finding out about netiquette	• Finding out and trying a wide range of communication tools and devices. • Finding out about and trying these in the context of their match to needs and purpose. • Finding out about a wide range of information sharing devices and tools, and identifying which of these tools and devices best matches different needs and purposes. • Becoming engaged in civic online participation • Understand cultural differences

	Getting to A	Moving from A to B	Moving from B to C
Content-creation	• Finding out about different tools, software and packages to produce content • Understanding how to use some simple tools • Understanding how to modify content	• Finding out about and using different ways that ICT can produce content. • Become familiar with multimedia tools • Understanding how to apply licences to the content one has produced • Finding out about tools that support creating new programmes or applications	• Selecting ways to produce content that are not so familiar and using these in contexts appropriate to needs and purpose. • Finding out about and using ways to edit and refine content. • Finding out about and using expert ways of combining existing content such as mash-up. • Becoming familiar with different types of licences. • Learning how to code and programme.
Safety	• Finding out simple means of protections (passwords, anti-viruses, avoid sharing information) • Understanding how to protect self from addiction or cyber bullying	• Finding details of the information that should not be shared online, and having opportunities to put this into practice. • Finding out about and using a range of tools to protect digital devices. • Finding out about the impact of technologies on the environment	• Finding out about and using a wide range of protection strategies and how these apply to online identities. • Knowing how to change online security and privacy settings, and monitoring and adjusting these regularly as needed, checking them against expert practice. • Having access to expert sources that detail the different privacy issues, and how to address these in practice. • Finding out about the impact of technologies on society
Problem-solving	• Finding out who to ask in case something does not work or cannot be done • Understanding how different technologies can help solve everyday problems	• Having access to sources or centres that demonstrate digital technologies, and having chance to explore their use according to personal needs. • Having access to sources or centres that offer technical advice, and enable the individual to gain personal experience in solving technical problems. • Creating own network of experts to recur to for help	• Having access to a range of expert advice relating to new tools, devices, applications, software and services, to provide opportunities to review these in terms of current or future personal needs and purpose. • Having access to expert technical advice that demonstrates how to solve technical problems that arise, and being able to use this in practice. • Having access to a means to check personal competence, and being directed to sources to update competence areas that are identified as weak. • Finding out about the potential of technologies in the resolution of complex or cognitive problems

COVID-19 pandemic and the CCS

The COVID-19 pandemic has wounded sociality and limited the possibility to stay together: the essence of many forms of art, leading to a tremendous impact on the cultural and creative sector. The arts and creative activities play a crucial role in the well-being and cohesion of the community, shaping values; they represent the key to assure freedom of expression and innovation. According to the joint statements of Italian, German and Spanish Ministers, culture seems to be recognised, in the political agenda, as "*best antidote [..] in the European Community*" to the crisis caused by the COVID-19

pandemic. Beyond its immaterial value, the CCS is important for the European economy. According to Eurostat, this market employed 8.7 million people in 2018, equivalent to 3.8 % of the total number of persons employed within the EU-283. This last percentage represents a reliable parameter for the Council for Europe membership, too. The industry has been growing steadily after the 2008 economic crisis, witnessing an increased demand for entertainment and culture: in 2017, there were 1.1 million cultural enterprises in the EU-27. 5 The CCS is deeply connected with other essential economic sectors such as tourism and information technology for instance. When analysing the impact of the crisis we should acknowledge that the CCS comprehends a variety of subsectors; it also includes all the activities of the cultural and creative products' value chain, from development to dissemination.

The CCS, crucial for the European economy and the well-being of its citizens, has been profoundly wounded by the measures taken to fight the spread of Covid-19 pandemic.

Suddenly, with the outbreak of the virus, global production has been stopped, affecting the whole value chain: events have been postponed or cancelled, the related marketing, distribution and touring too. Bookshops, cinemas, concert halls, museum, theatres, heritage sites or art galleries have been closed down.

This section illustrates the impact of COVID on CCS national economies, illustrating the specificities of some sub-sectors, and it provides insights on the precarious conditions of the CCS's workers.

At the present moment, it is difficult to assess the overall economic impact on the CCS value chain and its sub-sectors; nevertheless, some estimates provide an essential snap-shot of the seriousness of damage suffered by the industry. In France alone, the health crisis is affecting 2 000 cinemas, 3 000 bookshops, 1 200 museums, 1 000 theatres, hundreds of art galleries and life events including festivals or trade fairs. Spending on recreation and culture in the G7 economies has decreased significantly: for instance, -10% UK, -7% Germany, -6% France and -5% Italy.6 According to UNESCO, at the beginning of June 2020 50% of world heritage sites are still closed. In Germany, a report from the Kompetenzzentrum Kultur und Kreativwirtschaft of the Federal Government provides the most comprehensive estimates of the damages on the national CCS. The report estimates the impact across various subsectors (music, film and performing arts). It considers the turnover losses (with a conservative scenario) to be respectively EUR 2.5 billion, 3.4 billion an[27]d 2 billion for the selected sub-sectors. Taken together it estimates that CCS in Germany will experience a turnover loss of approximately EUR 21.7 billion or 12.7% of its annual turnover (conservative scenario). The most severe scenario predicts a 23% loss (EUR 39.8 billion). The report stresses that CCS employs 1.7 million people in Germany with only 940 000 of them being employees benefiting from social protection. In Slovenia a survey shows that cultural workers expect the turnover of businesses to decrease by an average of 44% in 2020. 63% of cultural entrepreneurs felt that state measures were insufficient to cover the losses[28]. In France, the National Centre

[27] https://keanet.eu/wp-content/uploads/Impact-of-COVID-19-pandemic-on-CCS_COE-KEA_26062020.pdf.pdf?fbclid=IwAR2nGtKVc1vqz2bcgMhfYQjJJZy9v6dfkeQF7FlrSwhu3yDVeusjf8qaFNY

of Music (CNM) estimates the losses generated by COVID-19 on live performances to be between EUR 1.7 and 2 billion. “La Scala” of Milan estimates that limiting its audience to 200 people, means a loss of EUR 50 000 per day whilst having already lost EUR 20 million. The cancellation of trade fairs and markets represent an incredibly severe loss of opportunity to find buyers and sellers for artistic productions. In 2020 the following Europe-based trade fairs with 6 EOCD (2020).

Total sales of art work worldwide fell 97% at Christie’s, Sotheby’s and Phillips during May, from nearly USD 2.9 billion in 2019 to USD 93 million in May 2020. This is the lowest public auction total ever recorded for the month by the database (which tracks totals as from 2007). “The sharp fall isn’t so surprising given that all but three of May’s auctions were purely online. Historically, online sales from these auction houses have generated less than USD 2 million on average each, compared to USD 50 million from the live evening sales,” says Christine Bourron, chief executive of Pi-eX.12 The Audio-Visual (AV) sector and film/TV production is experiencing similar problems. At production level all shootings had to stop. Distancing measure are difficult to implement in production phases. At distribution level most movie releases have been deferred as cinemas are closed, disrupting supplies and release schedules. In parallel several film festivals have been cancelled or moved to online platforms. The UNESCO monitoring system estimates that the cinema industry worldwide is bound to lose EUR 7 billion. For museums, the social-distancing problem will add an additional difficulty to the closure requirement. The Rijksmuseum which closed in March has normally 12 000 visitors a day. The St. Petersburg’s Ermitage announced that it will lose half of its annual revenue. As for museums, cinemas and concerts halls are gradually opening up with sanitary measures to respect. The Musikverein in Vienna reopened in June, 2020 with only 100 visitors allowed in the audience, the Ravenna festival in Italy also started with an open-air concert in late June, 2020.

In its policy report, the Joint Research Centre of the European Commission shows the impact of COVID-19 on cities with a high share of arts jobs and where cultural offering is a main driver of the local economy, notably tourism. The report shows the higher vulnerability of medium-sized cities in Southern Europe. It can be deducted that the important contribution of tourism and culture to the economy will come as a major challenge for economies in the Balkans, Central and Eastern Europe. The impact of COVID-19 will be even more severe as often these countries overlook the importance of CCS in the economy and in territorial attractiveness. The local creative ecosystems, aside major national cultural institutions, are clearly at risk in the absence of accompanying support measures. COVID-19 is shedding an interesting spotlight on the importance of cultural infrastructure in the tourism and travel economy. Reciprocally the cultural sector will have to reassess its relevance to the local economy and citizenship in the absence of international travellers.

Heritage sites not being visited by tourists and mass cultural events are not likely to resume before September, whether in the most seriously affected countries (UK, Spain, Italy, France, Belgium) or countries with less infection cases but obliged to take drastic confinement measures to protect a weaker health service system. However, it is also important to highlight that not all CCS activities are victims of COVID-19. Online content services benefited from increased demand in subscriptions or on-demand services.

Companies like Netflix, Amazon Prime Video, telecom, national VOD services or Spotify enjoyed substantial business growth reflected in increased membership, customers or share price. Whilst impacted by the production pause, the streaming giant Netflix announced in April 2020 that it gained 15.77 million new paid subscribers globally, well above the 7 million it had expected. The music-streaming platform Spotify said it gained six million subscribers in the first quarter of 2020. Sales of physical books online exploded to the detriment of bookshops. News media are affected by less advertising whilst seeing an increase in online subscriptions. The period also witnessed a greater demand for video games, and in-game concerts representing a new phenomenon in cultural consumption.

Finally, it is important to consider the social impact of the crisis on cultural workers. CCS organisations are not like any other businesses. Across the EU-28, one third (33%) of the cultural workforce is self-employed, compared with an average of 14% for the whole economy. As such, the relative scale of self-employment in the field of culture is more than twice as high as the average for total employment. Precarity of working conditions is specific to this industry. The Zurich Centre for Creative Economies (ZCCE) issued four notes on the impact of COVID-19. Note number 2 is focusing on the specific situation of CCS workers. It concludes: "*we are moving from precariousness to misery*". "The situation is untenable for cultural managers who must project themselves into the future" according to Christiane Bourbonnaud from the Avignon International Theatre Festival". However, a noticeable fil rouge connects all the personal situations: precariousness with an uncertain future.

CCS and future policies

The following part is intended to present some measures taken to combat the pandemic's economic and social impact, including several actions taken by international organisations dealing with culture, public measures taken at national, regional and city levels as well as private initiatives.

The European Commission has put forward a variety of measures to mitigate the socioeconomic impact of the COVID-19 pandemic. The Union is providing a global response using three main instruments: The Corona Response Investment Initiative (CRII), the Corona Response Investment Initiative Plus (CRII+) and the Support to Mitigate the Unemployment Risks in an Emergency. The EC has proposed an ambitious emergency European Recovery Instrument ("Next Generation EU") amounting to EUR 750 billion. It also proposed a reinforced long-term budget for the EU for 2021-2027 (EUR 1 100 billion). In relation to CCS the EC highlights in its proposal on the EU Budget that "*it is imperative that other programs are strengthened to allow them to play their full role in making the Union more resilient and addressing challenges that have been heightened by the pandemic and its consequences*". The European Central Bank and the European Investment Bank are also offering support to financial institutions to avoid credit contraction and liquidity shortage. Cultural entrepreneurs should be able to benefit from this credit and re-financing facilities at lower costs. The EU is also providing specific support to CCS: it redirected some funding schemes in performing arts, launching a call to support digital culture and virtual mobility (EUR 2 million). Other measures

include: deferral or extension of deadlines of projects funded by Creative Europe, redirection of already existing funding or the establishment of a direct fund to support cinemas affected by the pandemic. Furthermore, the EC is exploring ways to adapt the CCS Guarantee Facility to mitigate the impact of the crisis on CCS. The platform Creative Unite has been set up with EU support. It is intended to facilitate knowledge exchange. It offers a common space for CCS providing help to European artists and cultural operators to access resources and information as well as offering opportunities to co-create and sell.

Some countries are progressively adapting support measures to enable the recovery of the CCS. It will be important to sustain investment in culture to avoid the collapse of the creative ecosystem. Countries with strong public funding for the arts are better placed to envisage the future of their local CCS ecosystem. They run also the risk of freezing or delaying required evolution. In any event it is appropriate to coordinate a cross-border response, decongesting the entire value chain. Cultural workers should be given a clear recognition of their status and social rights. CCS workers and businesses should see the opportunity to articulate their needs and give a cohesive and creative response to upcoming global challenges. They should, for instance, contribute to design financial support schemes made conditional to an increase in cultural participation and the reaching of social cohesion objectives (gender and racial equality for instance) or environmental objectives (less polluting and sustainable productions, distribution and events). The cultural and creative sectors will be facing challenges in terms of their competitive ability after the COVID-19 crisis. Most of these challenges are well-known and not new: underfunding, lack of scale in the face of international competition, too limited a capacity to produce for a global market as well as distribute and market internationally.

The crisis has accelerated the impact of increased international market concentration, new consumption trends and business paradigms. Post crisis management is the opportunity to address the gaps that hinder competitiveness in the CCS notably the insufficient:

- knowledge of technology, which weakens the capacity of the sector to embrace the digital shift and notably, its opportunities in managing consumption data;
- insufficient apprehension of new consumption patterns and trends.

In our view, the focus should be on policies aimed at:

- integrating artistic intervention in policy making,
- incorporating the cultural dimension in social policy and
- adapting policies to take the digital shift better into account and the need to create scale outside traditional linguistic or territorial lines.

How are digital technologies being used to face the pandemic?

Several questions may arise when mobilizing digital technologies in order to respond to the current crisis. Digital technologies may be seen as a gateway to solve many of the problems arising from the crisis: How can we control the spread of COVID-19? How do we continue to provide education to the many people who have to stay at home? At the same time, digital technologies may pose challenges related to several human rights: Are my digital rights protected? Are local and regional governments acting in a transparent

manner when resorting to digital technologies to face the crisis? To harness the potential for technology to effectively respond to the crisis, it is essential to prioritize the use of technology through a human rights lens aimed at protecting citizens, maintaining essential services, communicating life-saving information, and fostering socioeconomic interactions for the benefit of all.

An interactive consultation conducted during the session "Live Learning Experience: Beyond the immediate response to the outbreak of COVID-19[29]" was separated into four topics to identify the main challenges, opportunities, concerns about digital rights, and demand for digital technology during the pandemic. The consultation underlined the key challenges and opportunities, which were identified as priority areas by the 180+ participants.

The findings from the consultation show that local and regional governments are the first responders to this crisis and they play an essential role in guaranteeing rights protection of and safeguarding the health of communities via local public service provision, including to the most vulnerable populations living in informal settlements or slums within and around cities as well as older persons, women, children, persons with disabilities, migrants and refugees. The main challenges for local and regional governments concerning digital technologies during this crisis, highlighted by the majority of the participants from this live consultation, included the relationship between privacy and security, the digital divide, and accessibility. Privacy is a challenge in the mitigation of COVID-19, as governments look towards technology to help trace patterns and movements of people through contact tracing apps and big data. While these methods are controversial and may infringe on rights to privacy, they appear at first to be effective measures to rapidly control and limit the spread of the virus.

Beyond the lens of privacy, the responses to COVID-19 have further brought to light that the digital divide is ever present and barriers to accessibility of technology continue to exacerbate inequalities. Participants also identified key opportunities stemming from the use of digital technologies in response to COVID-19, including tele-working, reducing the digital divide, ensuring education and learning, and promoting the ecological transition. The opportunities identified highlight a few key areas that local and regional governments could prioritize in response to the aforementioned challenges. To address the challenges and harness the opportunities offered by digital technologies during this crisis, participants shared a concern to recognize and protect digital rights in particular around the areas of privacy and inclusion. Application of digital technologies must be responsive to and inclusive of all members of population and close the digital divide.

At the end, let's not forget that the main reason for the increasing of digitisation of CCS in the last years is the ongoing COVID-19 pandemic, which has digitised almost all sectors and has made people more digital citizens.

"*From the very beginning of the crisis we used technology as an enabler, considering citizens at the center. Technology and digital tools have been part of every single task-force we have built.*" - Roberta Cocco, Deputy Mayor of Milan for Digital Transformation.

[29] https://www.uclg.org/sites/default/files/eng_briefing_technology_final_x.pdf

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

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 you 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 Learning[30]:

- **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."

[30] http://www.literacy.ca/professionals/professional-development-2/principles-of-adult-learning/

- **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. 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
▪ 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	▪ 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 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. ▪ 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.	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. ▪ 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.

Culture and creative sector and digitalisation

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 cultural sector 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

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.

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.

VI. Digital Competences for adult learners in the CCS

The following analysis of the digital competences in culture and creative sector of adult learners is 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. Therefore, guiding our Strategic Partnership "Digital Creative Minds" 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.

Information and data literacy

The nature of the cultural and creative sectors, is characterized by rapid technological changes where constantly new and complex knowledge is created and demanded and where underlying competences are needed to improve the skills permanently.

For adult learners working in the CCS, browsing, searching and filtering data, information and digital content is important, because it can give them the possibility to articulate information need, to find content in the digital environment as well as to access it. Know the multiple types of data available, including but not limited to assessment data, understand which data are appropriate to address the questions at hand, and know how to get the data, through electronic or other sources, is very important for adult learners. Using effectively information and data means to be able to find different problem solving approaches and search for the best practices and tools for supporting your own work. Moreover, data can be analysed or used in an effort to gain knowledge or make decisions, and can be crucial for adult learners professional and personal development.

However, browsing data as part of daily routines is not enough for adult learners working in the CCS. They need to 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 adult learners may fall behind simply because they don´t have the agility and awareness to embrace the new waves of modern technology.

The cultural and creative sectors are at the forefront of applying new technologies and are described as innovative and as state of the art in terms of adopting ICTs. However, important to consider is that in Europe, 57.2% (Eurostat, 2020) of cultural workforce is over 40 years' old, so there is a high proportion of adult learners who do not have digital skills or have very limited skills. Consequently, equipping adult learners working in the CCS with digital skills and competences is crucial for their social inclusion in the economy that is increasingly becoming digital. ICTs and the Internet as digital resources need to be fully explored by adult learners and they should be provided with appropriate knowledge and digital skills that can improve their performing in their current

employment, or support and increase their chance to find employment. The mass digitization together with emerging technologies such as virtual and augmented realities can create new forms of cultural experience, diffusion, and new business models with market potential that adults involved in CCS should take advantage of.

As becoming more important to be an intensive users of technology, adult learners in the CCS need to have information and data literacy advanced skills. They should be able to create vary personal search strategies and to adapt the management of information, data and content, organizing and processing it in the most appropriate structured environment. In a business-driven environment, they continually need to develop and adapt competences and contents to the rapid pace of the digital innovation combined with the competition of foreign markets. The CCS businesses, especially now during COVID-19 pandemic, are being rapidly transformed, integrating new tasks and roles whether to create new digital content, to explore new revenue streams or to find new ways to create and engage with audiences. This is why CCS´s adult workforce increasingly requires a blend of creativity, digital and entrepreneurial competences, that can help them to stay competitive and successful in their sectors. Having information and data literacy for adult learners working in the CCS means to have the ability to perceive the needs and preferences of their prospect customers, to analyse and interpret data, and to use them in the most efficient possible way.

Communication and collaboration

The digital revolution has created a universal medium for creation, distribution and interaction as well as technological change has enabled new forms of cultural and creative expression for businesses and in particular, for freelances working in the CCS. Digital markets and open source communities have sprung up online making it easier for people to learn, share, collaborate and trade digital-related cultural and artistic activity in new ways. Moreover, the increase of social and professional networks has been crucial for the development of new creative communities where people could engage and learn from each other, while finding ways to market themselves and their work.

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 creativity[31]. Thus, digital technologies interaction and sharing is very important for adult learners working in the CCS because it gives them an opportunity to

[31] https://www.tandfonline.com/doi/full/10.1080/17510694.2016.1247627

create or join interest communities, enable participation, conversation and collaboration as well as multiply the exchange of ideas and knowledge.

However, important to highlight is that CCS is dominated by micro-sized and small enterprises that often do not have the capacity to take up and to take advantage of digital opportunities. The challenge of covering the costs of 'becoming digital' is cross-sectoral and brings with it several challenges, including the digitisation of content, skills development and updating of staff qualifications, management of digital rights and, development and testing of new business models. It is not surprising that the businesses' ability to respond to these challenges strongly depends on the enterprise size and bargaining power. Indeed, the challenges for adult learners are much higher, because they often need more time to search for educational and training materials that can help them update their digital competences as well as to adapt to the current tendency and develop new trends and contents using digital technologies.

Indeed, according to recently released research for cult committee "Cultural and creative sector in post Covid-19 Europe[32]", due to the halting of international mobility and halting of social life during March 2020, there have been an increased consumption of digital cultural content. Moreover, the loss of income opportunities for CCS organizations and individuals led to new sectoral initiative to ensure access to culture, and experimentation with new business models to reach audience were created. The restrictions led to the development of new skills sets (e.g. digital) by the CCS workers as majority of them started an intra and cross-sectoral collaboration, while exploring new forms of activities less affected by the measures. Consequently, many cultural and creative organizations are still rethinking to re-organize their activities in line with the new measures, focusing on digital content, such as engaging digitally more frequently, using e-commerce platforms, increasing training on digital skills.

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.

Collaboration through digital technologies for adult learners working in CCS means to be able to create solution to complex problems with limited definition. It's mean to integrate your own knowledge in order to contribute to professional practice and guide others in collaborating through digital technologies as well as propose new ideas and process to the field. Adult learners should be able to choose the most appropriate digital tools and

32 https://www.europarl.europa.eu/RegData/etudes/STUD/2021/652242/IPOL_STU(2021)652242_EN.pdf

technologies for co-constructing and co-creating data, resources and knowledge. They should know how to vary the use of the most appropriate digital tools and technologies for collaborative processes, thus, they need to have at least advanced communicative and collaborative skills when using digital technologies in order to be competitive in the today´s increased digital market.

However, the advent of modern technology, social media and instant communication has brought a new set of rules on how we conduct ourselves in a digital world. These guidelines include best practices for effective communication, ethics and manners that apply specifically to the online space. Indeed, also adult learners working in CCS need to follow the set of guidelines for online communication, because platform such as Facebook, Twitter, Linkedin can be seen as a regular networking space where they can develop connections with followers and promote their music, art work, books, etc, but at the same time they have to understand the need of proper internet etiquette. Although, social media can be seen as an incredible tool that provide an opportunity for interaction, netiquette still remain unknown for many adult learners working in the CCS. Understanding how social media channels work and what kind of communication strategies adult learners need to apply in the digital environments, according to their audience should be a priority in adult education. Moreover, during the research our project consortium has done, there was no any information found about netiquette for adult learners working in the CCS. It can be stated that the aspect of netiquette is underrepresented, and although it was always said that following a specific rules or guidelines in term of how people interacts online is important, there was no any methods or recommendations found on how to do this.

The massive digitalisation in recent months in the culture and creative sectors is clearly not temporary and could create new forms of experience and business models with market potential. In today´s digital world, having online presence is definitely important for adult learners, because it can be a real game-changer. Thus, digital reputation becomes crucial for adult learners working in CCS as well as the importance of maintaining and managing it. Reviews, comments, social media profiles, photos, posts -- the list of what we put into the online world is a long one, and this is what shapes search results. They impact behaviour, decisions and, above all, reputation. With this in mind, adult learners have to learn how to manage their own reputation in the digital space, because while Internet is offering unprecedented opportunities, it´s also bring its own unique challenges. Unfortunately, within the research partners have done, there was not specifically information and materials found on how adult learners working in the CCS can better maintain and manage their online identity. Although, more adult people are becoming comfortable with the idea of authoring and posting content online, it is still relevant to make them aware of the responsibility they have as well as give them proper guidance on how they can shape their identity in a way to be beneficial, both in personal and professional aspect.

Digital content creation

Our world today is undeniably digital so adult learners can no longer survive without gaining digital competences. And 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 the 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.

Developing a digital content is extremely important in the CCS. Computers and technology allow artists to create fascinating works. As technology advances, the possibilities are truly endless. Digital art has taken many forms over the years. For example, one constant has been artists' exploration of digital media as a form of expression. Following, just imagine what professional levels, according to the DigComp 2.1, these artists should have. They not just need to have an intermediate skills knowing how to edit content in different formats, they also need an advanced knowledge that can help them express themselves through the creation of digital means.

Nowadays it's unthinkable not considering new and advanced techniques to develop contents in the CCS. Walk into any given gallery or museum today, and one will presumably encounter work that used digital technologies as a tool at some point in its production, whether videos that were filmed and edited using digital cameras and post-production software, sculptures designed using computer-aided design, or photographs as digital prints, to name just a few examples. Thus, there is no doubt that adult learners need to have an advanced and/or highly specialized knowledge, since working in CCS is always demanding more digital competences in order to keep the new trends.

It's important to underline that the private and public bodies should also invest in the formation of the adult learners for two main reason:

- Firstly, because according to Eurostat statistic, adult people (over 40 years old) are the majority of the workers involved in CCS.
- Secondly, a more attractive offer forms by more attractive and interactive contents, can lead the entity to have a better income in terms of audience, promoting at the same time its own business and contributing to the economy in the whole area.

To summarize, considering that nowadays the digital world is in a continue and, apparently, unstoppable evolution, adult learners will need to be always ready to re-elaborate and integrate their previous work with brand new techniques. This will lead the adult learners to the need of expanding their curriculums at the same rhythm of their skills, giving potentially a never-ending improvement that will reflect on their results in the years to come.

To understand how copyright and licences apply to data, information and digital content is very important for adult learners involved in CCS. Although the Internet is full of opportunities and good examples for adult learners, they should always keep in mind that copyrights and licences could bring them some trouble if not used well. To specify, copyright is a legal right that's granted to the creator of an original work. If adult learner created a work of art, copyright gives him or her the exclusive right to handle that work in whatever way he or she sees fit, including reproducing, distributing, and selling the work. If they want to give a third-party full right to the work, they must assign their copyright to them. Thus, if adult learners use such product without having assigned copyright they can experience also a legal issue. From the other hand, in order to protect their own work, adult learners need to know how copyright licenses are working, because this is the common and often profitable way for artists to generate income from their work. A properly drafted copyright license agreement is a good tool to help make sure adult learners personal artwork is used only in ways they approve of. Thus, adult learners don´t need just a basic level to identify simple rules of copyright and licences, but they also need advanced skills that can help them to apply different rules of copyright and licenses that apply to data, digital information and content as well as they should know how to choose the most appropriate rules that apply copyright and licences to data, digital information and content.

Programming or planning and developing a sequence of understandable instructions for a computing system to solve a given problem or perform a specific task is also needed skill by adult learners working in the CCS. They should understand how to operate with instructions for a computing system to solve a different problem or perform different tasks as well as determine the most appropriate instructions for a computing system to solve given problem and perform specific tasks. Thus, appropriate training and educational materials should be provided to adult learners so they can acquire the needed competences.

Safety

According to Dig.Comp 2.1, protecting devices and digital content, means to understand risks and threats in digital environments. To know about safety and security measures and to have due regard to reliability and privacy. Thus, adult learners working in CCS need to apply different ways to protect their devices and digital content, recognizing the variety of risks and threats in the digital environment. They should know how to apply safety and security measures as well as employ different ways to have due regard to reliability and privacy. According to their own needs, they need to choose the most appropriate protection for their devices, so they can be sure that their work will be never stolen. Important to mention is that in the last years, many artists report discovering their work is being stolen and sold as non-fungible tokens (NFTs) without their knowledge or permission. In response, they've been sharing block lists to bar automated accounts from creating unauthorised NFTs of work posted on social media. Others are simply locking their accounts so only existing followers can view their posts. However, as we seen protecting devices and digital content is not an easy task, but its highly important, so adult learners need to have at least intermediate knowledge to do so.

Protecting personal data and privacy it's not a new topic, and as for all other professions, it's also very important for adult learners working in the CCS. They should apply different ways to protect their personal data and privacy in the digital environment, know how to share it while protecting themselves and others from dangers as well as to know and explain privacy policy statements of how personal data is used in the digital services.

Protecting health and well-being is very important for adult learners. In the past few years, published reports have indicated concerning trends in creative artist mental health. For example, five Australian entertainment industry workers attempt death by suicide every week, with those in the entertainment industry experiencing depression symptoms five times higher than the general population[33]. In 2019, the digital distribution platform Record Union shared the results of a survey conducted with almost 1,500 musicians. The report found that more than 73% of independent music makers suffer from symptoms of mental illness, and that anxiety and depression were the most commonly experienced negative emotions in relation to music creation[34]. Following, a part of the common challenges that artists can experience such as burnout, depression, anxiety, low self-esteem, etc., they can also experience negative consequences brought from the use of social media. Multiple studies have found a strong link between social media and an increased risk for cyberbullying, self-absorption, fear of missing our, depression and anxiety, and even suicidal thoughts.

Thus, adult learners should know how to adapt the most appropriate ways to protect themselves and others from the dangers in the digital environment. They should know how to support also other people if they experience bullying, addictions, physical well-being, caused by the used of digital devices and social media.

[33] https://nitro.edu.au/articles/2018/11/30/protecting-and-enhancing-the-wellbeing-of-artists-and-students
[34] https://artists.spotify.com/blog/a-psychologists-take-on-mental-health-for-musicians

Problem solving

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. Undoubtedly, adult learners will face different problems within their work that should be solved, so having an intermediate knowledge for them is must to have.

However, let´s not forget that during the first months of COVID-19 pandemic, individuals and public and private entities working in the CCS, through their creativity and use of digital technologies, they bring the art in our homes. We have a lot of examples of short-term tactics included digital events via Zoom, a surge in social media posts and exhibitions on Google Arts & Culture. At the more strategic end of the scale, museums looked at the long-term implications of the lockdown and thought about lasting solutions. Some saw this as an opportunity for exhibitions to be digitalised, or to be digital-first, and engage curators in technological innovation.

As every professional, adult learners working in the CCS need always to identify their digital competence gaps, understand where one’s own digital competence needs to be improved or updated. They should seek opportunities for self-development and to keep up-to-date with the digital evolution.

VII. Conclusion

Digital competence is increasingly seen nowadays as an important transversal skill for all citizenship but with the continuously changing digital technology and services, digital competence needs to be updated accordingly, to reduce the risks of digital exclusion. Indeed, understanding the opportunities, challenges and impact of digitalisation on work and learning is important for every adult learner involved in CCS. Digital competence is not only important for collaborative work and interaction, but also to perform several job-related functions, depending on information and data management, content production, communication, and so on.

The following document 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. Moreover, through the use of DigComp2.1 Framework, partners had an opportunity to analyse each of the five competences areas identifying the digital competences most promoted in the CCS adult education contexts as well as the skills most needed at different working levels. Based on all findings exposed in this document, partners will create an additional digital survey in order to define the most required digital skills for adult learners in CCS, the most effective teaching and learning tools and methods for adult learners' digital skills and transverse skills promotions as well as to discover the most effective learning methodology to be used in online courses, for adults with low digital skills. The following complementary research will be implemented by using a survey as a data collection tool and will target stakeholders, learners and professionals in the field of CCS from the five partner countries: Germany, Estonia, Italy, Bulgaria and Spain.

Following, the data collected by the results of both researches will guide the development of the DCM MOOC (Intellectual Output 3), aimed at promoting digital skills and competences, transverse competences and social inclusion among CCS adult learners.

The End