Intellectual Output 1

CURRICULUM DESIGN

Co-funded by the
Erasmus+ Programme
of the European Union

Co-funded by the
Erasmus+ Programme
of the European Union

Digital Humanist

IO1 - task 1.1/1.2

Desk research

Focus group

Curriculum design

FINAL REPORT

IO1 Coordinator: UNWE

This report was based on the Digital Humanist partnership input and feedback and was completed thanks to partnership collaboration

Contents

INTRODUCTION 3

Task 1.1 Drawing up of the methodological guide to analyze the needs of digital cultural communication skills 3

1. DESK RESERCH 3

1.1 Desk Research – literature 3

1.2 Esucation review……..….5

1.3 Learning methods of Digital Hunanists……..8

1.4 Skills and capabilities of Digital Humanists……10

1.5 Desk research - partners 143

2. FOCUS GROUP 19

2.1 Results summary 209

2.2 Recommendations 364

Task 1.2 Design of the "Digital Humanist" curriculum ……..…….. 35

3. CURRICULUM DESIGN 37

3.1 Methodology for curriculum development…….……35

3.2 Curriculun design…… ……..…38

3.2.1 Target groups…… 40

3.2.2 Curriculum description……38

3.2.3 Professional profile……41

3.2.4 Learning outcomes……..44

3.2.5 Entry requirements……..……..46

3.2.6 Content……..…50

3.2.7 Training methodology 50

3.2.8 Adoption……..……51

3.2.9 Assessment ……..52

CONCLUSIONS……..…53

APPENDECES 54

REFERENCES……..…68

INTRODUCTION

This Intellectual Output 1 begins with partners' research, to analyse and evaluate current offer of university curricula with literature review and context desk research. Mapping skills required by the businesses and the ones already developed within the university context, will allow the partnership to jointly draw up the Digital Humanist curriculum, making these highly specialized students build key competences, be easily employed and foster businesses' growth and customer satisfaction internationally.

In the current business environment and job market, many companies are looking for a new generation of high-quality digital humanist managers with marketing, organizational, relational skills and strategic view. This is why the Digital Humanist project aims to realize a university-based learning programme, which enables the development of digital cultural promotion and entrepreneurial skills, with innovative, interactive teaching methodologies, to develop students' capabilities and fulfill businesses' needs.

Task 1.1 Drawing up of the methodological guide to analyze the needs of digital cultural communication skills

1. DESK RESEARCH

1.1 Desk Research – literature

Today, the humanities computing is shifting to digital humanities with the goal to provide practical technical skills within the framework of arts, humanities and social sciences. Technology is used as a tool to shape visual design elements, aesthetics, beauty and the whole interface through which thoughts and intangibles can me materialized (M. Kirschenbaum, 2004; McGann, 2006; Svensson, 2009). On the side of the humanities, English language and literature dominate the disciplines landscape and the majority of the authors in digital humanities represent American and British institutions (Sula & Hill, 2016). The other major area within digital humanities is new (digital) media where media scholars focus on objects such as websites, blogs, computer games, email lists, interactive maps, videos,

podcasts text messages, user-generated content, social spaces, wikis and virtual worlds (Svensson, 2009).

To understand the nature of digital humanism, we need to dig into a history reaching renaissance roots (Celiński, 2013). From the Renaissance holism of knowledge about the world today is the pursuit of interdisciplinarity, the dialogue between sciences and humanities. The practice of art, philosophy, medicine, construction and engineering craft is reflected in the form of contemporary Do-It-Yourself culture - an attitude of participation in the conditions of weakening the authors' authority over the texts of culture. The search for mathematical excellence and interpretation of the world is the foundation of today's codes and digital machines, as well as the great project of digitizing culture. Studies on the anatomy and biology of life have constituted modern medicine and knowledge about life (later exact sciences), and in the domain of cyberculture their echoes manifest in the form of post- and trans-humanistic discourse in the figures of cyborgs or the concept of the genetic code.

As stated a few lines above, information technology is an essential element of modern society, not only because it is necessary for the normal conduct of daily activities, but also because its development is transforming that of the whole society. There is no field of human activity in which computer science discoveries have left their mark.

Another sector in which information technology has become an integral part is communication. Modern human beings are constantly connected to the network, exchanging information through social network. Thanks to these IT tools, communication has become increasingly global. Furthermore, analysis tools are available through which communication strategies can be analyzed and a degree of their own resonance can be measured. These tools are accessible to all categories of users, but only an expert user can understand and use they properly[3].

Even the field of arts and entertainment, while falling into the humanities, has undergone considerable influence and transformation with the advent of new technologies. The aim

of this book [4] is to support the IT courses provided within the training courses oriented to the artistic disciplines. A general preliminary framework is presented dedicated to the concept of digital representation of information and to processing systems through the use of computer networks and the Internet, introducing the application part, rich in a wide range of examples. In addition, the various areas of text processing and the acquisition and processing of digital images and audio video signals are analyzed, showing how digital representation is the basis for manipulating and transforming information, thus emphasizing the added value that the IT can provide the arts, both as a simple support to the traditional work of the artist, and as an innovative tool through which to give life to new artistic forms.

The existence of Web 2.0 and online communities (known as computer-mediated communities, virtual communities, or simply e-communities) has generated a great deal of interest among scholars as well as business practitioners. The emerging importance of networks, partnerships and alliances between firms and other agents and the advances in so-called Web 3.0 technologies are also changing firm structures and value chains or value networks, and the configuration of decision-making processes for managers (Garrigos-Simon, Narangajavana, Barbera-Ribera, Estelles-Miguel, 2012).

Into the organizational fabric of those businesses involved in the tourism economic development is an important key to success. Participation through the internet, is the result of the social need that the person has to communicate and interact with others belonging in a community which can take place on the internet. A virtual community can be a group of people who may or may not meet one another face-to face, and who exchange words and ideas through the mediation of computer bulletin boards and networks (Garrigos-Simon et al. 2012). ICTs can be the communication tools which promote the distinct characteristics of such a community.

1.2 Education review

Within the preliminary determined goals of the project an educational review was carried out by each partner country the findings of these reviews are presented below.

Despite its popularity, the field of digital humanities lacks a ground definition (M. G. Kirschenbaum, 2010). The educational landscape of DH is characterized by an increasing professionalization of the field. The institutional framework of digital humanities includes academic departments, units and centres, annual conferences, journals, educational programs, professional organizations (McCarty & Kirschenbaum, 2003; Svensson, 2009). The two foundational journals in DH are *Computers and the Humanities*, established in 1966, and *Literary and Linguistic Computing*, established in 1986. There are six leading professional associations: Association for Computing the Humanities (ACH); Association for Literary and Linguistic Computing (ALLC); European Association for Digital Humanities; Society for Digital Humanities (SDH); The Australian Association for Digital Humanities (AADH); The Japanese Association for Digital Humanities (JADH). ACH, ALLC, SDH are members of the Alliance of Digital Humanities Organizations (ADHO). These institutions organize annual conferences, publish DH journals, manage DH projects, perform educational activities, etc. ADHO and the King's College London have created the "Humanist" e-mail, sent to the members of the international seminar on digital humanities founded in 1987.

A Companion to Digital Humanities[1], edited by Susan Schreibman, Ray Siemens and John Unsworth is a comprehensive introduction to the field, freely available online. The other volume, recognized as reference works in Digital Humanities, is *A Companion to Digital Literary Studies*[2], edited by Ray Siemens and Susan Schreibman. The most popular digital community blogs are *Chronicle of Higher Education*[3] and *Digital Humanities Questions & Answers*[4]. Chapters on aspects of digital humanities pedagogy can be found in edited collections such as *Teaching Literature and Language Online* (Lancashire, 2009), *Debates in the Digital Humanities and Learning through Digital Media* (Gold, 2012; Scholz, 2011), *and Hacking the Academy* (Cohen & Scheinfeldt, 2012).

The education in Digital humanities includes university undergraduate, masters and doctoral programs, summers schools, skills seminars and workshops, open education

[1] A Companion to Digital Humanities is available at http://digitalhumanities.org/companion/
[2] A Companion to Digital Literary Studies is available at http://www.digitalhumanities.org/companion/DLS/
[3] Chronicle of Higher Education is available at https://www.chronicle.com/blogs/profhacker/
[4] Digital Humanities Questions & Answers is available at http://digitalhumanities.org/answers/

platforms for online learning. The latter engage people from around the world as students and mentors and offer a more flexible, modular approach to learning. The world's first PhD in Digital Humanities program started at the Department of Digital Humanities at King's College London (Hirsch, 2012).

The situation, regarding the teachings to create the figure of the digital humanist could be summarized in the following way[5]:

Bachelor degree

University of Pisa (Pisa). Three-year degree course in Humanistic Informatics.

Tor Vergata University (Rome). Languages in the information society.

University of Trento (Trento). Interfaces and Communication Technologies.

Department of Informatics, Ionian University. Specialization Humanistic Informatics The Jan Kochanowski University (JKU) in Kielce. Information management and librariosity

University of Łódź, Information in the digital environment and Informatology for business with English

Kazimierz Wielki University in Bydgoszcz, Second generation humanities

Master's degree

University of Bologna (Bologna). Digital Humanities and Digital Knowledge (DHDK). [International degree]

University of Calabria (Cosenza). Management and Preservation of Digital Documents.

University of Genoa (Savona). Digital humanities - Communication and New Media.

University of Salento (Lecce). Degree course in European heritage, digital media and the information society.

[5] The summary does not aim to cover the whole area, but just to shed light on the state of art.

University of Pisa (Pisa). Masters Degree in Humanistic Computer Science.

Digital Methods for the Humanities at the Athens University of Economics and Business.

University of Siena (Siena). Master in Textile Computing - Electronic Edition.

Ca 'Foscari University (Venice). Master in Digital Humanities.

La Sapienza University (Rome). Digital heritage. Cultural communication through digital technologies.

Catholic University of the Sacred Heart (Milan). Public and Digital History - The New Professions of the Historian.

PhD

University of Genoa (Genoa) and University of Turin (Turin). Digital Humanities - Digital Technologies, Arts, Languages, Cultures and Communication.

1.3 Learning methods for Digital Humanists

The learning taxonomy, suggested by Benjamin Bloom (1956) and revised by Lorin W. Anderson, David R. Krathwohl, and Benjamin S. Bloom (2001), is widely used within the digital humanities domain. The learning process, according to this taxonomy, consists of two learning methods: theoretical and practical learning. The theoretical parts emphasize remembering and understanding, while the practical parts focus on applying and creating.

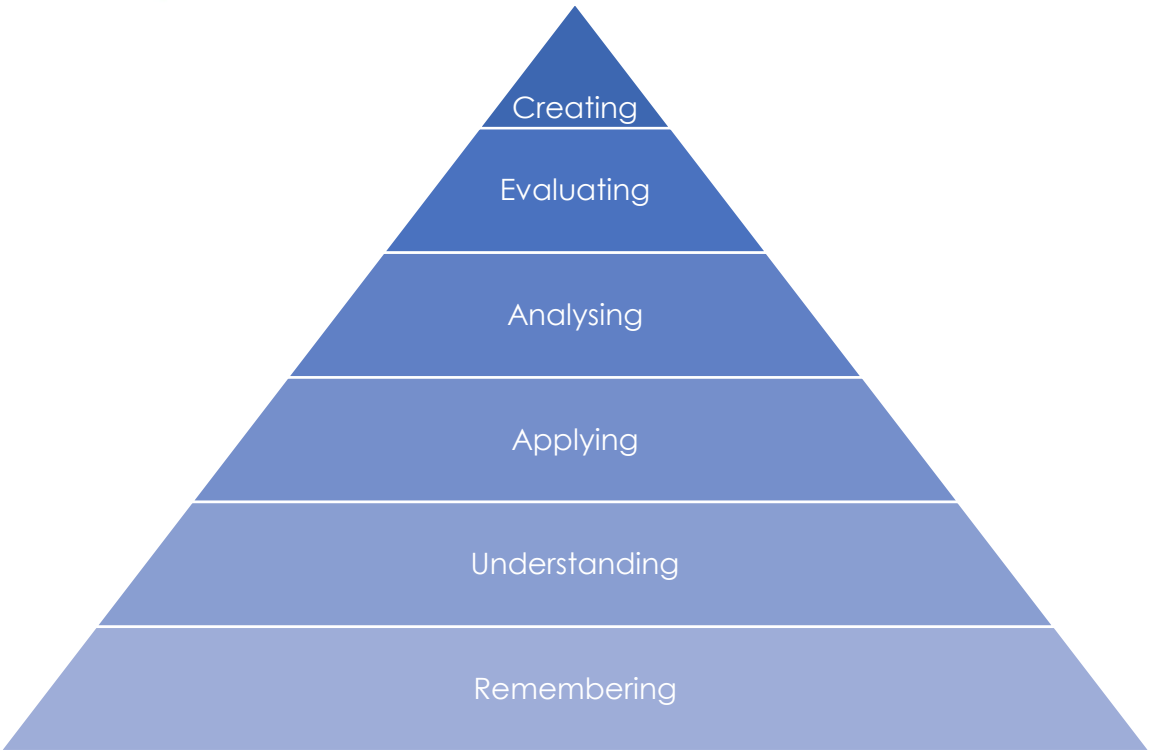


Figure 1. Taxonomy of learning objectives, according to Bloom (1956) and Anderson, Krathwohl and, and Bloom (2001)

As Hirsch's (2012) examples indicate, the teaching and learning methods, applied in digital humanities, include a holistic learning approach to convey a better understanding of the process but also to evoke an intrinsic motivation by completing a whole project, to create something tangible and long lasting. The driving philosophy is to get the students involved in the complete process of creating and publishing a digital edition, from the first encounter with the material to its web presentation. The focus is not on particular aspects of digital editing, such as TEI-based text encoding for example, but covers the complete life-cycle from planning the project to publishing.

The learning methods, used in this process, are as follows:

- research methodologies;
- mixtures of practical, conceptual and theoretical work;
- digital methods, tools and theory for creating online resources;

- methods in computer-assisted textual analysis dealt with the basic corpus linguistic methods using statistical software;
- goal driven approach in structuring the courses and their content: from competences and interests to specific range of subjects that a student might undertake;
- a learning-by-project approach aiming at group work to devise a small-scale projects (edition), with the support of an out-of-a-box technology system – conceptualizing the editorial project; document analysis; data modeling; transcription, annotation and encoding; and quality assurance;
- transforming and visualizing textual data and online publication;
- close interaction and collaboration between the students in order to contribute their particular competencies and interests;
- the learning process uses one set of data that gradually enriches during the course;
- textual encoding, textual editing, relational database technology, corpus-linguistic methods, statistical analytics;
- adoption of software solutions such as Archives Toolkit (http://www.archiviststoolkit.org), Omeka (http://www.omeka.org), WordPress (http://www.wordpress.org), Wikidot (http://www.wikidot.com), Google Documents (http://docs.google.com), Google Maps (http://maps.google.com and so on.

The theoretical part includes lecturing by instructive discourses, demos and other presentations by the instructors. The practical parts allow students to participate in an interactive and collaborative way to apply techniques learned beforehand and to use the tools, introduced to them by the instructors. From the students' perspective, 75% of the learning time should be allocated to passive and active participation in the practical work (Hirsch, 2012, p. 62).

1.4 Skills and capabilities of Digital Humanists

The learning programs in DH attract students from different backgrounds: undergraduates, postgraduates and early-career researchers in the arts, humanities, business and finance, education, engineering, and computer sciences. Galleries, libraries, archives, museums and

other institutions, dealing with the preservation and communication of cultural heritage, traditionally have needed archivists, public historians and historical editors as well as professionals with some background in humanities such as classics, culture, media and creative industries, languages, history, music, philosophy, theology and religious studies, archaeology, paleontology, etc. For generations, such humanists have learned to process and describe collections, to create museum exhibits and film documentaries, to transcribe, annotate and publish primary source materials in print format and other activities aimed at a small and well-defined audience. With the development of World Wide Web, these professionals face increasing demands to make analogue resources available online, to create, manage, preserve and disseminate digital materials and to incorporate social networking technologies into their products. They need to educate students, researchers, clients and the society remotely through their web sites and also need to integrate new media and advanced technology into their daily work, partnering with information technology staff such as typesetters, printers, publishers, book designers, programmers, web-masters, or systems analysts.

Provided more and more cultural heritage and memory institutions seek to make their analogue materials available online, professional associations, grant agencies and employers recognize the need for incorporating digital skills and methodologies into traditional humanities to form better professionals with deep critical-thinking and technological skills. An important prerequisite is to start with a domain-specific research question, and then move to acquiring digital competences. A summary of Hirsch (2012) book *Digital Humanities Pedagogy: Practices, Principles and Politics* suggests that digital cultural communication skills, needed in business contexts to develop training contents, include the following competences:[6]

[6] The initial competences list is drawn upon Hirsch, B., D. (2012). Digital Humanities Pedagogy: Practices, Principles and Politics: Open Book Publishers. pp. 206

Humanities competences

- Be able to process archival collections, curate exhibitions, transcribe and annotate historical documents;
- Be able to formulate research questions, collect data and apply research methods to find the information that you need;
- Be able to read critically, write effectively, analyze problems and solve them;
- Be able to apply visual and oral rhetoric, grammar and composition principles in order to improve the readability and aesthetic appeal of the presentation;
- Be aware of the social, political and ethical issues related to the problem;
- Be aware with the principles of intellectual property and the fair use doctrine;
- Be aware of intellectual property issues as they apply to multimedia;
- Be able to apply the legislative principles;
- Be able to collaborate with peers by assigning and dividing different tasks;
- Be able to deal with conflicts;
- Be able to negotiate and to build strong social networks;
- Be able to manage, administer and budget projects;
- Be familiar with the media landscape, including traditional and social media.

Technical Competencies

- Create and study an electronic text;
- Create electronic music and compose on the computer;
- Design a typeface;
- Create bit-map and vector graphics;
- Create and manipulate digital photographs;
- Design the layout and composition of a publication;
- Create an animation;
- Create a virtual space;
- Create instructional materials;
- Create an electronic presentation.

- Build a sophisticated WWW site;
- Create an interactive CD-ROM;
- Create time-dependent media (audio and video);
- Set up and network a PC or Mac;
- Use a WWW server;
- Create interactive works;
- Develop databases;
- Conduct an electronic text analysis;
- Use data modelling to create digital resources;
- Use metadata to describe your content so that people can easily find it;
- Use transcription to create online contents;
- Apply the Guidelines of the Text Encoding Initiative (TEI) to encode texts;
- Apply Cascading Style Sheets (CSS) for simple data representation;
- Create annotation to add interactivity to your content;
- Use online collaboration tools (Google documents and wiki software) to stimulate;
- engagement and knowledge sharing;
- Be able to scan, share and deliver access to digital materials;
- Develop mapping tools to point out locations;
- Use QR tags (3D bar codes), combined with iPhone apps to allow places and objects to tell their own stories;
- understand digital editing as a holistic process and to know typical phases in a digital editing project, methods and technologies applied and standards used in each phase;
- Know selected tools supporting the various phases in digital editing;
- Know typical infrastructural requirements for a digital editing project and to use such an infrastructure;
- Understand XML as a means for data representation and XSLT as a means for data presentation;
- Know and be able to apply the principles and basic rules of XML;
- Understand the necessity of quality assurance to complete excellent projects.

1.5 Desk research - partners

Based on the tasks, stated as they are at the beginning of the project, partner countries executed extensive desk research of professional profiles in each partner country. Here, in the general report, only few of the profiles and competences will be presented, while the detailed information, concerning the skills and knowledge of each professional profile are available in the country reports.

Summary of the findings

Name of the professional profile	Competences
Information Broker (researcher)	➢ Acquisition, verification and storage ➢ Information ➢ Analysing information using appropriate data analysis and synthesis methods ➢ Providing information ➢ Execution of orders taking into account market and economic mechanisms
SPECIALIST IN PUBLIC ADMINISTRATION	➢ Planning and designing solutions that ensure the effective functioning of the public administration unit ➢ Conducting administrative proceedings and issuing decisions

	in the scope of their competences and authorizations
SPECIALIST ON INFORMATION MANAGEMENT	➢ Acquisition, verification and storage ➢ Information ➢ Information processing and distribution ➢ Anticipating, identifying and meeting needs ➢ information recipients of information ➢ Planning, implementation and improvement of ICT
COORDINATOR OF EU PROJECTS	➢ Managing the work of the project team ➢ Managing the budget of EU projects ➢ Planning and controlling the implementation of tasks ➢ in EU projects
TRAVEL AGENT	➢ Systematize the information about the products/services characteristics ➢ Digital competences ➢ Personal competences

	➢ Analyze the information about the products/services characteristics and customers and customer satisfaction
SALES REPRESENTATIVE	➢ Systematize the information about the products/services characteristics ➢ Market analysis and planning ➢ Advising the clients and taking role in the process of concluding contracts ➢ Actual delivery of the goods/services and follow up actions and control
MARKETING ASSOCIATE	➢ Use of Information and Communication Technologies ➢ Collecting, processing and preparing materials for marketing research ➢ Customer Service ➢ Analyzing and reasoning

Desk research – discussions and conclusion

The partner countries drew the following conclusions:

- Digitizing the cultural heritage gives the opportunity for creative industries to exploit the potential of the digital cultural heritage and to design innovative tourism services, to strengthen the contacts and links with all stakeholders in the cultural tourism chain and to have more tools at their disposal to develop the tourism market. This includes but does not limit to local administrations; networks of museums, archives, libraries, theatres and auditoriums; local associations and foundations; research centers and universities, academic spin-offs; Destination Management Organizations (DMO): tourist guides, tour operators, travel agencies, online services (such as TripAdvisor); the hospitality industry (hotels, restaurants, country houses, thermal baths…); movie industry, AV rights management companies; national and local TV companies; book shops, cultural merchandise, and food and wine shops; publishers, artists, artisans, and others working in creative industries; local and international transport networks (buses, trains, airlines, and ships); schools; online communications experts, such as travel bloggers or administrators of online social communities, etc. (Caffo, 2014).

- The Bulgarian cultural heritage is administered and promoted by the collaborative actions of a large number of formal institutions and community groups. These institutions use primary cultural works to produce educational and promotional materials such as scientific research, databases, catalogues, presentations and other materials. The activities of the private sector include sponsoring of national and regional folklore festivals, collaboration with community centers on projects related to the collection, narration and production of and commercialization of folkloric dresses, traditional instruments, food, souvenirs and other works of national folkloric craftsmanship.
- Digital abilities and needed knowledge are defined on the basis of professional profiles of travel agent, sales representative and marketing associate.
- Gap exists between supply and demand of digital cultural communication skills. Development of such skills in Bulgaria is scarce and mainly limited to single courses rather than specialized and work-oriented programmes. Needed learning content is fragmented and elements of it are found in

business/entrepreneurship/marketing/tourism/IT courses. Digital cultural communication skills are taught following traditional methodologies. Authors and practice suggest that active learning techniques are fundamental, particularly for those areas where a behavioral response is required. Project management is taught as a general framework of knowledge while business requires practical skills for conceiving, implementing and managing cultural communication projects in order to valorize archaeological and historic-artistic sites through information technology.

- In the modern labour market, skills are first and foremost important. For years, the same has always been in the forefront: complex problems solving, critical thinking, creativity, people management, cooperation with others, emotional intelligence, decision making and inference. Among them there are no related to modern technologies. Mainly because modern technologies are supposed to be a means to achieve goals, not an end in itself. Employers dismiss people mainly for reasons of lack of substance, but because of a lack of soft skills. Humanists often have well-developed soft skills, above all communicativeness - they use the language perfectly, thanks to which they have no problem with formulating thoughts, they are willing to cooperate, often very open to other people. Humanist likes to broaden his knowledge, readily learns, develops, and additionally rarely closes to one field. Therefore, a change of position, extension of duties or level promotion for such persons is not a problem. What is important, more and more often they do not develop only in the humanistic direction, but also focus on technical issues. People with such education know very well how and where to get information. They can also assess the usefulness of data, search for sources, draw conclusions from the information obtained and analyse them. The humanist usually knows at least one foreign language perfectly well, and thanks to openness he can perfectly read human emotions and there is no problem with an appropriate reaction to them.
- If a humanist acquires digital skills, his value on the labour market will increase and he will never have to worry about employment.

2. FOCUS GROUPS

Following the procedures in the methodological guide to analyze the needs of digital cultural communication skills, focus groups are carried out at the partner's institutions. The profiles of the participants in the focus groups are summarized in the Appendix 1. The applied methods for data analysis are top two boxes frequency analysis for the Likert scale questions and qualitative content analysis for the open-ended questions. The collected data is also carefully evaluated through Natural Language Processing, Text Mining, and Sentiment Analysis techniques in order to extract as much information as possible, which will be useful for the composition of the curriculum aimed at creating the right profile of the Digital Humanist.

The main findings of the **students** focus group reveal how knowledgeable the students are about their digital humanist cultural promotional skills and their entrepreneurial skills, which of these skills they find most challenging, what their attitude towards e-learning is and how they see the ideal virtual learning environment.

The main findings of the **professors** focus groups reveal the state of the art of humanistic faculties' educational supply, the strengths and areas for improvement to equip the students with the skills needed to become digital humanists, the level of required students' knowledge about cultural promotions and entrepreneurial skills (perceived by the professors), the professors' attitude towards e-learning and how they see the ideal virtual learning environment.

Last but not least, as a result of the focus group, insights about digital transformation considerations of **CCI/SMEs representatives** are generated, as well as the biggest challenges that companies' management bodies face along with the required knowledge about digital humanist cultural promotional and entrepreneurial skills. Some factors affecting company operations in digital transformation are also identified.

2.1 Results summary

POINT 1: Students experience – educational supply – business considerations

This section reveals a comparison between the point of views of students, professors and CCI/SMEs representatives on digital cultural communication skills. Although the students have some experience with digital and cultural heritage sites/assets and believe that the technologies improve the guest experience, they generally do not have the skills and competencies to create digital representations and promotions of these sites. In some of the universities the professors describe the state of the art of the humanistic faculties' educational supply as not satisfactory, while in others they report quite sufficient availability of modern facilities and good digital learning practices. The CCI/SMEs representatives have two major considerations in terms of digital transformation – managerial and technological.

Students: A lot of students use Google maps, street view and different applications as preferred tools to virtually visit places. Their most common experience with digital and cultural heritage sites/assets is about virtual museums and museums that provide virtual/augmented reality activities. According to the students, museums improve the quest experience by utilizing interactive tools to represent historical events in a digital and easy to understand way. They think that the websites, with rich structure and content, support and improve the historical research functions and business communication processes. Students point out that technologies save time, provide a lot of information, help people perceive and understand the information easier and faster. Some students think that online promotional activities provide more results than offline promotional activities. There are also students who are unaware of what digital transformation is and declare lack of any experience with digital cultural sites/assets.

Professors: Professors from different universities report differently on the state of the art humanistic faculties' educational supply. For example, in the University of National and World Economy the application of digital skills is quite limited and the educational supply is

primarily based on theoretical and practical learning (case studies and project-based learning). According to professors from UNWE, the faculties need improvement in providing a stimulating environment for teaching, learning and research, including blended learning methods, technical support and guidance on how to use modern technologies for research and communication purposes. On the other hand, the Poznań University of Economics and Business, University of Salerno, and University of Alicante have very modern infrastructure that fully provides students with equipment required to acquire digital skills and competencies. The educational supply includes: computer labs, a cluster of research labs including Virtual Reality Research Lab (VR Lab), Internet of Things Research Lab, Future Internet Research Lab, and Renewable Energy Research Lab. The labs hold summer schools and student's internships. Students can also use lab facilities for conducting research parts of their diploma and master theses. In the VR Lab research in the fields of virtual and augmented reality is being performed for e-commerce, maintenance, marketing, cultural heritage, education, entertainment, engineering, architecture and rapid prototyping of products.

CCI/SMEs representatives: The first digital transformation considerations of CCI/SMEs representatives are two types – managerial and technological. The managerial considerations are related to the strategic plan, researching, competitive analysis, reconsidering the competitive position searching for repositioning of the main products, adjusting management operations to the requirements of the contemporary market while balancing between the digital transformation needs, resources and competences. Similarly, people's resistance to the adoption of digital transformation is referred as an element that should be taken into consideration. As for the technological side, the representatives consider issues such as software and specific digital technologies for the respective organization, database design, use of digital tools to attract larger audiences, the influence of the UI/UX factor on the adoption of digital transformation process.

POINT 1: Summary

Students:	Professors:	CCI/SMEs representatives:
Students have experience with digital cultural sites/assets, but mostly as users, not as creators. They believe that digital technologies, save time, influence the perceptions, and improve the experience of users, support the research and communication functions.	The state of the art humanistic faculties' educational supply varies in different universities. While some of them still lack facilities and technological support, others have all the technical equipment to educate students with a Digital Humanist profile.	CCI/SMEs representatives have two types of digital transformation considerations - managerial (research, analysis, planning, execution, financing, motivation) and technological (specific digital technologies and software, database design, use of digital tools).

POINT 2: Student's knowledge vs required knowledge about digital humanist cultural promotional skills

The knowledge of the students about digital humanist cultural promotional skills is insufficient. Students with technological background lack narrative skills and students with humanistic and business background are not able to construct and manage whole digital communication projects. In line with these findings, the professors and the CCI/SMEs representatives suggest that the first student group needs to acquire strategic and narrative skills and the latter – technological skills to construct and manage digital projects.

Students: The knowledge of students about digital humanist cultural promotional skills is insufficient. Students know some applications mostly as users. They have hard time defining what digital humanist cultural promotional skills are and they lack knowledge. For students with technological background the narrative skills are the least known. These students give the highest rank for the technological skills – almost everyone has heard about augmented reality, holograms, QR codes, etc., although just a few of them regularly use those technologies in life. The students with humanistic and business background have more confidence in their narrative and project management skills. The latter have difficulties in

constructing and managing digital communication projects, including the use of methods and tools for cross media and transmedia projects.

Professors: Depending on the university, some of the professors associate the required knowledge with narrative and project management (design narrative communication structures and apply the tools to improve the experience of users of cultural contents) skills, while others see the problem with strategic skills rather than narrative.

CCI/SMEs representatives: According to the CCI/SMEs representatives the professionals need to have narrative and communicative skills. Representatives with managerial and strategic planning professional background underline the importance for consideration of the needs for change in the cultural and communication models as well as the project management aspect either relating to the tools used or the content included. For the representatives with tech-oriented professional background, the technology is not a problem and it is perceived as the well-known ability. These representatives give the lowest assessment for strategic skills, probably because it is connected with the noticed lack of managers ready to implement new solutions. They also mention narrative communication structures as well as the management of nonconventional narration on social networks as areas that need improvement.

POINT 2: Summary

Students:	Professors:	CCI/SMEs representatives:
Students can not define and lack knowledge about digital cultural promotional skills. The students with technological background need to improve their narrative skills and those with humanistic/business background need more skills in constructing and managing digital communication projects.	Professors think that all promotional skills are required but greater emphasis should be placed on narrative, project management and strategic skills.	According to the CCI/SMEs representatives the professionals need to have above all narrative and technological skills, but as a whole all of the proposed skills are needed.

POINT 3: Student's knowledge vs required knowledge about digital humanist entrepreneurial skills

The students with different background have different confidence with different aspects entrepreneurial skills. The professors and CCI/SMEs representatives share the point of view that all aspects of entrepreneurial skills are important and they need to be acquired by students with both technological and humanistic/business background.

Students: The findings from the different focus groups suggest that the students with technical background feel more uncertain about their entrepreneurial skills – they are afraid of management tasks, public speaking makes them feel nervous and terrified, their relational and emotional skills are insufficient, and they score the cognitive skills low, probably due to lack of understanding of the potential usage in practice. The students with humanistic/business background declare that they have sufficient entrepreneurial skills. They feel more confident with their management and cognitive skills and less confident with their emotional and relational skills.

Professors: According to the professors, knowledge on all entrepreneurial skills - relational skills, management skills, emotional skills, cognitive skills, is required for the students and professionals to be more competitive in the contemporary world. They score relational and management skills higher.

CCI/SMEs representatives: Similarly, the CCI/SMEs representatives confirm that entrepreneurship related aspects (relational, management, emotional, cognitive) are of high importance and they also constitute a necessary part of digital humanist background. The emphasis again is on relational and management skills.

POINT 3: Summary

Students:	Professors:	CCI/SMEs representatives:
students with technical background feel more uncertain about their entrepreneurial skills, while students with humanistic/business background declare that they have sufficient entrepreneurial skills - more management and cognitive and less emotional and relational skills.	According to the professors, knowledge on all entrepreneurial skills - relational skills, management skills, emotional skills, cognitive skills, is required. They score relational and management skills higher.	CCI/SMEs representatives confirm that entrepreneurship related aspects are of high importance with an emphasis on relational and management skills.

POINT 4: Digital transformation challenges

The biggest digital transformation challenges are determined primarily by the CCI/SMEs representatives and they include all aspects of digital humanist cultural promotional and entrepreneurial skills.

Students: For students with humanistic/business background, the technological and project management digital competences are the most challenging ones and for the students with technological background those are the narrative, strategic and management competences.

Professors: The professors think that students are rarely prepared for hard work and are not enough emotionally mature. They point out the emotional, strategic, technological skills as the most challenging ones.

CCI/SMEs representatives: For the CCI/SMEs representatives the biggest digital transformation challenges are seen in:

- lack of clear vision for a digital customer journey;
- doubts that the transformation will lead to quick results;
- limited financial resources;

- lack of successful practices from which to learn;
- lack of expertise to design, implement/create and use digital transformation projects/products, including lack of knowledge about possibilities and limitations of technology;
- employees' resistance to switching towards digital transformation of their activities by changing established habits and adapting to changes;
- finding good management team setting up a team with the expertise/knowledge/skills (personal and collective) needed to carry out the digitization process
- providing funding and stimulating interest, including 1) insufficiently developed and working links with sources of external financing, professional associations, other cultural heritage organizations, travel agencies and regional development agencies for the co-financing of joint projects; 2) limited state funding, which prevents either the provision of the necessary equipment for modern digital products or the possibility to provide conditions for the development of the respective educational majors;
- ineffective usage of customer data;
- simplification of products-services in order to be easily used by the users.
- providing the exact same products and services while using digital means;
- finding original ways of promotion, including finding allies for the promotion of specific cultural goods;
- social need and social anxiety because of rapid changes in the environment;
- developing the right partnerships;
- security issues.

POINT 4: Summary

Students:	Professors:	CCI/SMEs representatives:
Technological and project management, narrative, strategic and	All, but above all - emotional, strategic, technological skills.	Lack of clear strategic vision, insecurity, limited resources, lack of expertise, need for simplification of products and their

management competences.		promotion, social anxiety, partnership issues, effective usage of customer data, etc.

POINT 5: Opinions on e-learning as a training methodology

Overall students and professors share common opinions on e-learning as a training methodology. They find it beneficial to a great extend but also see some disadvantages which can be overcome by combining e-learning with face-to-face learning. On one hand e-learning is considered convenient and easy, flexible, affordable and so on, but on the other hand it requires very strong internal motivation as there is no direct contact with the trainer.

Students: E- learning is considered a really useful means of teaching and learning. For students, e-learning means, above all, greater independence and responsibility for the organization of working time, punctuality, regularity, or care for communication with the teacher. In addition, students suggest balancing between e-learning and practical learning with face-to-face interactions. Therefore, blended learning techniques make the learning process more active and vivid and many students are in favour of their use. Students point out main advantages and disadvantages of e-learning such as:

- *advantages:* convenient and easy, good for attention and focus, lower cost, high speed, provides conditions to quickly acquire desired skills, time savings and flexibility resulting from the lack of necessity to attend a stationary class in a fixed time and place, as well as individual rate and intensity of learning or greater efficiency of work;

- *disadvantages:* no direct contact with trainer, the need to have a very strong motivation to learn and the willingness to learn independently, the problem with checking efficiency, the need to have an Internet connection and difficulties in maintaining constant student activity, e-learning classes are not always well designed and organized.

Professors: As far as the professors are concerned, e-learning is beneficial but it needs to be balanced with face-to-face traditional learning and project-based learning, because contemporary students are unable to acquire knowledge themselves - they require the presence of a teacher who methodically and step by step introduces and explains study material.

- *advantages:* accessible on demand, convenient, students can process information on their own speed, conditions for knowledge sharing among larger groups of people, e-learning facilitates and improves project/team work, interpersonal relationships are developed remotely using Skype audio-video communicators, chats, blogs, e-mails, discussion forums, minimizing the fear and shyness that could occur during traditional activities, the student does not lose his time to commute to places where there are stationary classes, the learning process can be planned so that it interacts with other responsibilities of everyday life

- *disadvantages:* a lack of personal contact between the teacher and the learner, hence the possibilities of influencing the learner's motivation are limited, effective in the case of a strong internal motivation of the learner, while those who need external motivation may be insufficient, problem with checking efficiency, the need to have an Internet connection, difficulties in maintaining constant student activity

POINT 5: Summary

Students:	Professors:
E-learning is convenient and easy, time saving and flexible. It allows studying with individual rate and intensity, providing conditions to acquire desired skills. On the other hand, e-learning requires very strong internal motivation, provides no direct contact with the trainer and the material can be hard to understand if the content is not well designed and organized.	E-learning is convenient and accessible on demand. It facilitates project/team work and can enhance the interpersonal relationships remotely by the use of Skype audio - video communicators, chats, blogs, e-mails, discussion forums. E-learning can minimize the fear and shyness that happen during traditional activities. The lack of personal contact with the trainer requires internally

	motivated learners who can maintain constant learning activities themselves.

POINT 6: Features of virtual learning environment

Students and professors identified key features that a virtual learning environment needs to have in order to facilitate the development of digital humanist cultural promotional and/or entrepreneurial competences. These features are described in the following table:

POINT 6: Summary

Students:	Professors:
• Examples • Interactive features • Tutorials • Videos • 3D elements • Accurate information • Forum • Pictures (3D pictures) • Practical tasks • Consultancy spaces • Free from errors • Holograms • Less text • Simple explanations • Speaking interactions • Storytelling • Structure • Colors • User-friendly interface • Practice tests and games • Entertaining and easy to follow content	• Curriculum and course management and planning • Case studies • Meaningful descriptions • Logical functionality • Tutorials and video lessons • Tools for tracking user's learning process, achievements, and task completions • Communication tools—forum, chat, notifications, instant messenger • Collaboration tools—wiki, blog, poll • Intuitive navigation, clear graphic page • Authoring tools • Easy to use content • Short texts • Intuitive content • Interactivity • Accessibility • Adaptability

• Quizzes, Videos and Live chat applications • Online Feedback and evaluation • Certification • E-books • Virtual reality games	• Engaging • Flexibility • Pleasing • Procedures • Readability • Simplicity

POINT 7: Strengths and areas of improvement for development of digital humanist skills

Professors: At present, to develop the digital humanist skills, the professors rely on solid theoretical knowledge, close relations with business and available technological tools for research and communication and they see areas of improvement in developing more specific digital skills and competences.

- *strengths:* good theoretical framework, thought by engaged and motivated professors, close relations with business and practical learning, use of tech instruments for research and communications, IT skills and competences for creating digital humanist content as well as skills for modelling semantic schemas to represent knowledge on digital humanistic resources;

- *areas of improvement:* general and specific digital skills for the creation of digital products, hands on approach, soft skills/teamwork development, reasoning and critical thinking, tech literacy level improvement, developing and implementing innovative teaching methods, stimulation of interactive learning, result-driven approach, using tech tools to engage the students, communication with the use of digital sources, creation of the content of digital sources (creativity), awareness of the differences between the impact of traditional and digital sources on the audience, technical skills to be able to create and use digital sources.

POINT 7: Summary

Professors:

The professors see strengths for development of digital humanist skills in the motivated professors with rich theoretical knowledge and IT skills and competences, as well as close relationships with business. They see areas of improvement in development of general and specific digital skills for the creation and promotion of digital products, interactive learning, student engagement with the use of interactive tools and technical skills for research and communication.

POINT 8: Internal and external factors affecting company operations in digital transformation

CCI/SMEs representatives: Internal factors affecting company operations in digital transformation, according to the CCI/SMEs representatives are related to the management process of operations and resources, especially human resources and data security. The influence of external factors is expected to come mainly from competition, customers, suppliers and local authorities, technological giants and industry standards.

- *internal:* analysis, planning and management of the overall process, human resources management and innovations, implementation of new technological solutions, data security, effective training for employees, preventing hacker's attacks, personal motivation (because the team has to believe the transformation vision), limited budget, as well as the size of the company, which can determine the extension of the digital transformation process;

- *external:* co-ordination with similar local business organizations, local authorities, external agencies and funding bodies, quality of the external services on which the digital transformation will depend, including international collaborations, necessity of using international clouds – security data problems, experimentation, feedback from the international customers expanding operations in highly competitive environment, competing with international technological giants, emerging platforms

(like Google, Facebook, You tube ,VR/AR), local social and cultural environment, industry standards and relevant risk.

POINT 8: Summary

CCI/SMEs representatives:
The internal factors affecting company operations in digital transformation are effective training and motivation programs for employees, budgeting and financing, company size and strategy for development. The external factors are competitors, customers, local authorities, technological giants and collaborative platforms, industry standards, social and cultural environment.

POINT 9: Technical keywords

Some technical keywords are extracted by the content of the focus groups by applying Natural Language Processing and Text Mining techniques. They will be useful for the composition of the curriculum aimed at creating the right profile of the Digital Humanist. A Sentiment Analysis revealed that the participants expressed themselves very positive with respect to the topic.

POINT 9: Summary

Technical Keywords referring to the Digital Humanist		
• Alternate reality game • Context awareness • Cultural analytics • Cultural heritage • Data analysis • Digital mapping • Digital publishing • Digital Technologies	• Game studies • Hashtag activism • Humanities • Hypermedia • Hypertext • Information retrieval • Internet • Media theory of composition	• Mobile app • Multimedia; • Social network • Storytelling • Text mining • Topic model • Virtual reality • Web app

2.2 Focus group discussion

The digitalization of the contemporary world leads to transformation of the educational and business landscape. The Internet becomes an extended environment for research, education and communication. This can be related to both positive and negative aspects of the teaching and learning process. On the one hand, new technologies give access to innumerable and diverse information resources and educational materials, provide tools useful in the learning process, enable a higher level of individualization of teaching, greater flexibility in the selection of educational content and forms of education, give choice of time and place where the learning process takes place, allow the creation of extensive networks of contacts and building virtual communities of learners whose task is mutual assistance and cooperation. On the other hand, they favour negative behaviours, such as widespread plagiarism, copyright infringement, lack of verification credibility and current information taken from the Internet and deeper reflection on the presented content. There is therefore a need to take into account new contexts and conditions related to the digitization of the learning and teaching process and to make changes to the forms of university education used on a daily basis.

The aim of the focus group research is to map both the expected skills level and the gap between supply and demand of digital cultural communication skills, needed in business contexts to develop training contents. The analysis of the answers from the focus groups reveals the following picture:

- *From students' standpoint:* Students have experience with digital cultural sites/assets, but mostly as users, not as creators. They have favourable attitude towards digitalization of the teaching and learning process and also believe that digital technologies support the research and communication functions in business, improve the guest experience and ultimately positively influence the business performance. At the same time, students' knowledge about cultural promotions and entrepreneurial skills is insufficient. The students with technological background need to improve their **narrative and entrepreneurial skills**, while those with

humanistic/business background need more skills in **constructing and managing digital communication projects** (which requires technological skills) with extra training on **entrepreneurial skills – mostly emotional and rational skills.** Overall, students need educational training for developing all aspects of cultural promotions and entrepreneurial skills, which are proposed in the questionnaire. Students acknowledge the benefits of e-learning as a training method but insist on balancing it with face-to-face learning.

- *From professors' standpoint:* Digitalization have different penetration in higher education institutions – some of universities still lack facilities and technological support, others have all the technical equipment to educate students with a Digital Humanist profile. According to the professors, all aspects of cultural promotions and entrepreneurial skills need to be included in the educational training programs with a greater emphasis on **narrative, project management and strategic skills** from the cultural promotional category, as well as **relational and management skills** from the entrepreneurial category. Professors also find e-learning quite beneficial, suggesting additional advantages such as enhancing the interpersonal relationships remotely by the use of Skype audio - video communicators, chats, blogs, e-mails, discussion forums and minimizing the fear/shyness that happen during traditional activities. They also suggest that e-learning should be an extension, not a replacement of the face-to-face and project-based learning as the latter has a great influence on student motivation for constant learning activities and provides a fundamental guidance through the whole educational journey. According to the professors some prerequisites for development of digital humanist skills, such as motivated professors with rich theoretical knowledge, IT skills and competences, as well as close relationships with business, are already available. Other areas, such as development of general and specific digital skills for the creation and promotion of digital products, interactive learning, student engagement with the use of interactive tools and technical skills for research and communication, need improvement.

- *From CCI/SMEs representatives' standpoint:* CCI/SMEs representatives have two types of digital transformation considerations - managerial (research, analysis, planning, execution, financing, motivation) and technological (specific digital technologies and software, database design, use of digital tools). According to them the professionals need to have above all **narrative and technological skills**, but as a whole all of the proposed skills are needed. They also confirm that entrepreneurship related aspects are of high importance with an emphasis on **relational and management skills.** The business representatives see the biggest challenges in the lack of clear strategic vision, insecurity, limited resources, lack of expertise, need for simplification of products and their promotion, social anxiety, partnership issues, effective usage of customer data, etc. They see the factors, affecting company operations in digital transformation, as internal (the management process of operations and resources, especially human resources and data security) and external (competition, customers, suppliers and local authorities, technological giants and industry standards).

Barriers: The focus group data analysis outlines some barriers to the digitalization of the educational and business processes. The most explicit ones are related to the availability of resources – both material resources (equipment and ability to finance different projects), time, mental resources (motivation and adequate technical knowledge), social resources (relationships and support networks, cultural resources facilitating the use of resources and services available online, human resources (lack of employees ready to take a part in digital transformation process). The barriers to digital transformation can be divided into two main categories: "hard" barriers and "soft" barriers. The former are infrastructural constraints (no technical possibilities to connect to the internet, insufficient hardware or software to connect or upload resources) or financial constraints. On the other hand, "soft" barriers include lack of knowledge, competencies, motivation, other psychological barriers, as well as the lack of appropriate skills to use. Theories and research on the problem of digital exclusion show that hard barriers are gradually becoming less important, while soft barriers are becoming more and more important. This is why along with the technological

development, people need to be encouraged to reach a more sophisticated level of performance by developing their cognitive, strategic, relational and narrative skills.

E-learning: Taken into account all the advantages and drawbacks of e-learning, it can be suggested that blended learning is the optimal training methodology. E-learning might be good for acquiring the knowledge and understanding the notions, but some help of an external expert/tutor would be required to properly implement practice. Classes should consist of a theoretical part interspersed with practical aspects, which can be intensified with a project-based approach – completing a whole project from start to finish. This motivates the students when they see that the acquired knowledge is practically used. Lessons should not be too long for the student to not lose fast concentration. Preferred is a larger number of sections and lessons but for a smaller length. Students expect to do small tasks based on the content of a given lesson. These tasks should be based on real applications.

2.3 Recommendations

With their answers, the students suggest that the Digital Humanist curriculum should be focused on the **technological, project management and narrative** cultural promotional competences as well as on **emotional and rational** entrepreneurial competences in order to fulfill the gap between required knowledge and actual knowledge. This does not have to replace the practical learning and training, rather to complement it. The virtual learning environment should be simple, reliable, interactive and visually rich.

According to the professors, the Digital Humanist curriculum should be focused on the **narrative, strategic and technological** cultural promotional competences as well as on **relational and management entrepreneurial competences** in order to fulfill the gap between required knowledge and actual knowledge. This does not have to replace the practical learning and training, rather to complement it. The virtual learning environment should be rich in case studies, easy to use, interactive, with meaningful and logical content, visual elements, tutorials and functional structure.

According to the three types of respondents, the Digital Humanist curriculum should be focused on the digital competences (narrative, strategic, project management, technological) as well as on all aspects of entrepreneurial skills in order to fulfill the gap between required knowledge and actual knowledge. This does not have to replace the practical learning and training, rather to complement it with development of video products and an interactive learning environment. The virtual learning environment should be rich in case studies, easy to use, interactive, with meaningful and logical content, visual elements, tutorials and functional structure. The CCI & SMEs representatives should consider the right goals, resources and facilities when involving their organizations in a digital transformation process. While students need to develop their cognitive and emotional skills, the professionals should pay more attention to their relational and management skills. The curriculum can include fields like human resource management, technological solutions, innovation management, customer relation management, strategy development and planning in order to provide in depth study of the factors affecting the company operations in digital transformation.

3. CURRICULUM DESIGN

3.1 Methodology for training curriculum development

Methodology for creation of the curriculum model is based on development of curriculum prototype, from which to build different national curriculum. The purpose of the curriculum prototype is to establish and define a set of disciplines (courses) with theoretical and with practical aspects, helping professors to achieve the appropriate knowledge and skills, which will satisfy the objectives of the project - to build, test and then distribute a research based model framework that will assist the education sector to match the curriculum of their students with the professional requirements expressed by the community of digital heritage management.

The Methodology is based on 4 theoretical models for curriculum creation:

a) Tyler model;

b) Taba model;

c) Oliva model and

d) Hunkins model.

They are integrated under common principles:

- With well-defined objectives
- With identified prerequisites
- Balanced – in the subject and covering the gaps
- Understandable – with well-defined disciplines (courses)
- With Horizontally integrated content – links and sequence between the courses
- With Vertically integrated content – links and sequence between the learning units in a course
- With spiral based increasing of knowledge / skills
- Having age / generation relevance
- With duration for achievement of knowledge and skills (lectures / seminars, ECTS)

Tyler (1949) published Basic Principles of Curriculum and Instruction

Four key points of the model can be tuned for the purpose of the project: objectives – the purposes of education through the curriculum, Instructional experience related to the purposes, organization of the experience for the purpose of having maximum curriculum effect (from education) and evaluation and assessment of the education purposes.

Our approach for using Tyler model is to create curriculum course mapping of current Institutional curriculum with the research, including from IO1. We applying the following methods of teaching and learning: cognitive, affective and psychomotor. We shall Implement learning through exploration and learning via doing. Organizing the students' experience will be from simple to complex, from general to specific. Experiences should build single course units. Evaluation and assessment of the results will be done through key performance indicators (KPIs).

Hilda Taba (1962) in "Curriculum development: Theory and Practice" believed that those who teach the curriculum (the teachers/lecturers), should participate in developing of the curriculum. The concept is that teaching was not limited to a mere transfer of facts, but was, rather, the means of developing students' thinking skills, which she understood

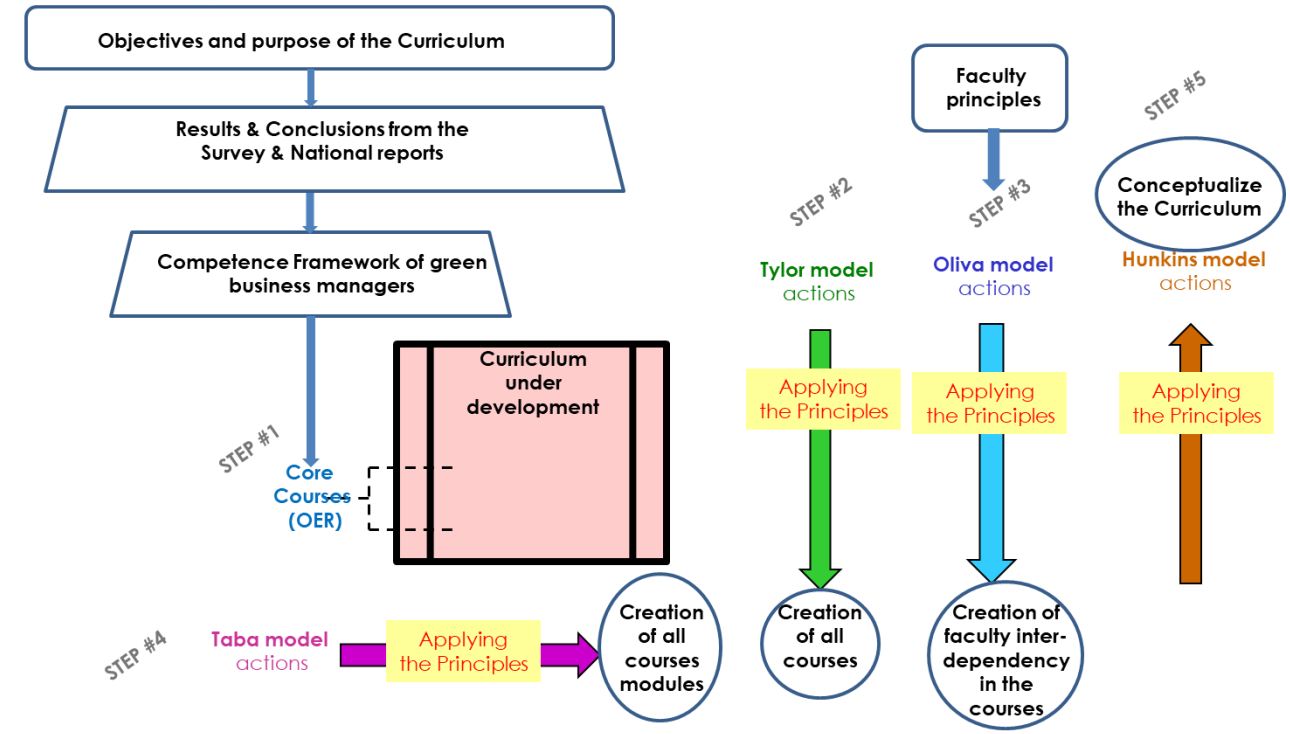
to be active and reciprocal between the student and subject matter. Taba model is accepted as bottom-up model. Our approach for using Taba model is: to create a course as a sequence of modules; some modules to have alternative ones.

The **Peter Oliva** (2005) model offers to faculties a possibility to make complete development of a school's curriculum. The basic principles that the students in a faculty have common abstracted needs for education. The model offers faculty-wide interdisciplinary programs making short path across areas of faculty specialization.

The Oliva model is based on previous curriculum models - Tyler model and Taba model, further stressed on the „needs from student and society". Oliva model is expected to provide a foundation for an understanding of its contribution to logistics curriculum. Theoretically, the design and development of curriculum in logistics programs are based on constructive inputs from logistics practitioners. For our curriculum Oliva's basic principles will be allied for students in a faculty, which have common abstracted needs for education: to incorporate Faculty principles; to create Faculty inter-dependencies in the courses.

The **Hunkins** (2004) model addresses the concerns of conceptualists, of putting stress on understanding the nature and power of curriculum. The model built on society's (community's) values and beliefs. Hunkins model is accepted as decision-making model, having a unique feature called the feedback and adjustment loop. This loop allows decision makers to refer back to previous stages to make changes and any modifications. This loop contextualizes the process of creating and implementing curriculum

The presented above Methodology for development of training curriculum can be applied via a procedure, consisting in 5 steps:



The developed Procedure consists of 5 steps:

a) Based on "Results and Conclusions from the Survey" (deliverable from IO1) and the developed 5 domains of open education resources (OER)

b) To create the Major set of courses in the Curriculum, via tuning the "Core courses" and applying the Tyler model with its principles

c) To create faculty inter-dependency between the courses, applying the Faculty principles of Institution, which will provide the education / training process, applying Oliva model

d) To establish modules in the courses of the Curriculum, applying Taba model

e) To Conceptualize the Curriculum, applying Hunkins' model, as well as to Check the achieved curriculum objectives.

3.2. Digital Humanist Curriculum design

3.2.1 Target groups

Digital Humanist Curriculum is targeted at Bachelor or Master students and life-long

learning of experts engaged in the cultural heritage sector, eg., heritage officers lacking digital skills.

The Digital Humanist programme is open to students in areas like Anthropology, Art History, English Language and Literature, Film Studies, Geography, Tourism, History, Journalism, Marketing, Modern Languages, Music and Culture, Philosophy, Political Science, Sociology, etc.

3.2.2 Course description

The **Digital humanist course** develops digital cultural promotion and entrepreneurial skills, with innovative and interactive teaching methodologies. It is designed to shape the professional figure of a typical humanist, specializing in areas such as literature, philosophy, history, religion, languages, art history, philology, semiotics and visual arts, with IT skills and competences.

The aim of this new figure is to exploit theoretical methodologies typical of the humanistic world, to be able to carry out scientific collaborations developing practices with the use of resources and tools typical of the information technology field useful in all areas of the human sciences and with an emphasis on cultural heritage management and promotion.

The most popular **professional profiles**, described in the National Classification of Occupations and Positions are: travel agent, sales representative, marketing associate, economist, information broker, specialist in public administration, specialist on information management, coordinator of EU projects, etc.

Graduates of Digital Humanist programme find **jobs** in many sectors including web agencies, software companies, software localization companies, libraries and museums, and many fields in the arts of entertainment and culture.

3.2.3 Professional profile

Different sources were used in developing professional profile of Digital Humanist like literature review, focus group research, national standards of professional competences, job descriptions, and professional associations' recommendations. Integrated framework

of **profile design**, **characteristics of the further professional** (competences, skills, know how, indicators, expected results) and **curriculum design features** (modules, courses, OER content) were built.

Digital humanist capabilities, expected know how and related skills to be developed were divided in two groups. Some were considered as prerequisites and others - developed within the curriculum, as learning objectives.

Five blocks or layers of activities refer to the five competence areas of the Digital Humanist curriculum:

Digital humanist professional profile

Competence area	Skills	Knowledge
PLANNING, ELABORATING AND MANAGING CULTURAL HERITAGE BUSINESS DEVELOPMENT PLANS AND PROJECTS	Planning, organization, control, decision, result and customer orientation Interpreting the needs for change in cultural communication models in relation to the specific identities of the territories Articulate the communication objectives with respect to the aims identified to valorise the territorial cultural assets Translate company directives into strategies appropriate to their area of responsibility / competence / territory	The relationship between heritage and sustainable development Strategy development Ethics Project management process and functions Sustainable development
ANALYZE THE MARKET, CULTURAL HERITAGE ASSETS AND APPLY ICT INSTRUMENTS	Apply context analysis techniques (market analysis, competitive analysis), cost-benefit/opportunity/profitability analysis Identify and apply tools for better narrative support Apply the tools to improve the experience of users of cultural contents Develop products with Quick Response (QR) Code, Augmented Reality (AR), three dimensional (3D) elements, Holograms, to increase experiential factors in real life	Market analysis Cost-benefit analysis Digital tools Multimedia
CULTURAL COMMUNICATION AND PROMOTION	Manage the nonconventional narration on social networks generated in the field of digital communication Concept and development of a digital communication project	Communication process Narrative support Social media and

	Developing a social media marketing campaign Design the digital communication of cultural assets Manage the methods and tools according to a cross media and transmedia logic Designing narrative communication structures	networks Storytelling Narrative posts Narrative structures
ENTREPRENEURSHIP IN CREATIVE INDUSTRIES	Logical and methodological skills in developing entrepreneurial business models for promoting cultural heritage Ability to manage entrepreneurial entities in creative industries Team management, emotional stability and conflict management Foster interaction with others, interpersonal communication and effectiveness, group and meeting management, public speaking, persuasion, negotiation, leadership, emotional stability and conflict management	Business planning Business models Financial management Team management Leadership styles Conflict resolution

3.2.4 Learning outcomes

Expected learning outcomes can be structured in two major groups:

- Domain-specific (cultural heritage management and promotion) and
- Digital competences.

The students will get to know the principles, methods and techniques of linguistics, including its computational aspects, historical research, communication, text coding, document management, semi-structured content and data, technologies and services related to the web, graphic and multimedia production, graphic interfaces and their usability.

Humanities competences

- Be able to process archival collections, curate exhibitions, transcribe and annotate historical documents;
- Be able to formulate research questions, collect data and apply research methods to find the information that you need;
- Be able to read critically, write effectively, analyze problems and solve them;
- Be able to apply visual and oral rhetoric, grammar and composition principles in order to improve the readability and aesthetic appeal of the presentation;
- Be aware of the social, political and ethical issues related to the problem;
- Be aware with the principles of intellectual property and the fair use doctrine;
- Be aware of intellectual property issues as they apply to multimedia;
- Be able to apply the legislative principles;
- Be able to collaborate with peers by assigning and dividing different tasks;
- Be able to deal with conflicts;
- Be able to negotiate and to build strong social networks;
- Be able to manage, administer and budget projects;
- Be familiar with the media landscape, including traditional and social media.

Technical Competencies

- Create and study an electronic text;
- Create electronic music and compose on the computer;
- Design a typeface;
- Create bit-map and vector graphics;
- Create and manipulate digital photographs;
- Design the layout and composition of a publication;
- Create an animation;
- Create a virtual space;
- Create instructional materials;
- Create an electronic presentation.
- Build a sophisticated WWW site;
- Create an interactive CD-ROM;
- Create time-dependent media (audio and video);
- Set up and network a PC or Mac;
- Use a WWW server;
- Create interactive works;
- Develop databases;
- Conduct an electronic text analysis;
- Use data modelling to create digital resources;
- Use metadata to describe your content so that people can easily find it;
- Use transcription to create online contents;
- Apply Cascading Style Sheets (CSS) for simple data representation;
- Create annotation to add interactivity to your content;
- Use online collaboration tools (Google documents and wiki software) to stimulate;

- Engagement and knowledge sharing;
- Be able to scan, share and deliver access to digital materials;
- Apply the Guidelines of the Text Encoding Initiative (TEI) to encode texts;
- Develop mapping tools to point out locations;
- Use QR tags (3D bar codes), combined with iPhone apps to allow places and objects to tell their own stories;
- understand digital editing as a holistic process and to know typical phases in a digital editing project, methods and technologies applied and standards used in each phase;
- Know selected tools supporting the various phases in digital editing.

3.2.5 Entry requirements

Students or employees who apply for the programme should have basic knowledge and skills in the field of Business Administration, Management and Marketing

Digital Humanist curriculum comprises a set of **suggested courses**, methodologies and experiences that will indicate students the best combination to achieve advanced knowledge and skills in the field of digital cultural communication

This is coherent with the main Digital Humanist project aim, to design, pilot and disseminate a new university-based advanced learning program, intended to refine and fine-tune business and marketing of cultural heritage assets, to create prepared, competent and experienced professionals.

Curriculum design

OER	Individual Learning units	Suggested Courses
OER1 PLANNING, ELABORATING AND MANAGING CULTURAL HERITAGE BUSINESS DEVELOPMENT PLANS AND PROJECTS	1.1 Digital humanities evolution: sources and methods 1.2 Cultural and creative enterprises 1.3 Digital heritage: the past in a digital present 1.4 Open access and digital ethics 1.5 Cultural heritage management and sustainable development	Digital Methods for Humanities Strategic Management Innovation and Entrepreneurship Marketing Business administration Data analysis Mobile and social media Digital image processing Leadership Entertainment technology software and virtual worlds Data mining and data warehousing
OER2 ANALYZE THE MARKET, CULTURAL HERITAGE ASSETS AND APPLY ICT INSTRUMENTS	2.1 Digital marketing research of cultural heritage assets 2.2 Digital audience and analytics 2.3 Digital cultural heritage content 2.4 Digital tools for producing multimedia contents 2.5 Animation and gamification: creative possibilities for digital communication of cultural assets	
OER3 CULTURAL COMMUNICATION AND PROMOTION	3.1 Digital and social media marketing of cultural heritage assets 3.2 Social media marketing campaign 3.3 Digital curation - digital libraries, museums and cultural institutions	

	3.4 Storytelling **3.5 Narrative structure and Web writing** **3.6 Mobile media in cultural communication**	
OER4 **ENTREPRENEURSHIP IN CREATIVE INDUSTRIES**	**4.1 Business model development** **4.2 Starting a new business** **4.3 Start-up management** **4.4 Team Management** **4.5 Financial options and scenarios for Creative and Cultural Industries**	

3.2.6 Content

Digital Humanist curriculum comprises three structural elements:

Block 1: n courses, 15 ECTS

Partners choose existing courses as **suggested** learning features

Block 2: 1 course, 6 ECTS

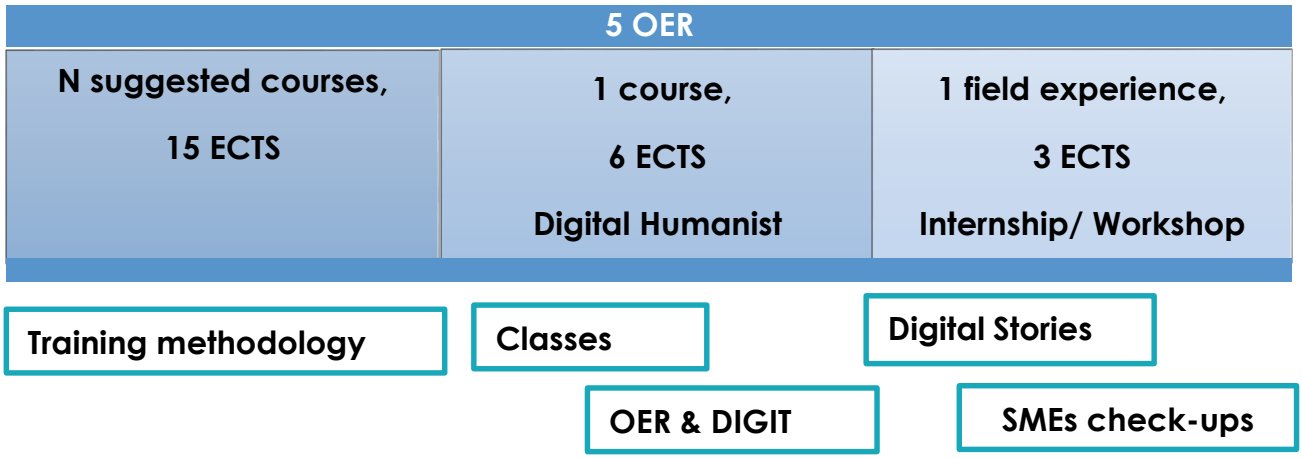
Digital Humanist course

Block 3: field experience, 3 ECTS

Bachelor – internship

Master – workshop

Digital Humanist curriculum – 24 ECTS



3.2.7 Training methodology

Student-centered learning perspective will contribute to focus on **active learning**

Curriculum, courses set and modules will have a **flexible structure**

Web-based learning materials and open access to all individual learning units for reviewing some parts for additional literature sources, examples etc.

Students will be involved in the **complete process of** creating, publishing and managing a **digital edition**.

The practical parts will allow students to apply techniques learned beforehand and to use the tools, introduced to them by the instructors.

SMEs check-ups will allow putting into practice, foster professionality and facilitate employment.

Chosen **media** include traditional teaching (lectures), web-based multimedia learning materials (OER and other DIGIT material), digital stories and field experience (SMEs check-ups).

3.2.8 Adoption

We suggest in Digital Humanist curriculum different adoption alternatives. It can be a new University programme or adapted/enriched existing programmes with this Digital Humanist curriculum.

Adoption

	Bachelor	Master	Life-long learning
Courses	A = 6 ECTS B C Internship = 3 ECTS	A1 – upgraded in content and different competences, B1 C1 = 6 ECTS	Any of A,B,C or A1 offered or Special package for the persons who already work in this filed
Competences	Practical, know to use, etc.	Understanding, using in international context, etc.	Specific – knowledge & skills focused

Adoption example: Athens University of Economics and Business offers MSc programme: Digital Methods for the Humanities. It includes required and optional courses. Separate learning units or the whole Digital humanist course can be used in the existing MSc

programme:

Digital Methods for the Humanities (MSc)

(curriculum)

	Title	ECTS	Period	Digital Humanist units
	Required Courses			
Y1	Programming elements with Python	6	A	
Y2	Representation and organization of information & knowledge	6	A	
Y3	Managing, editing and issuing digital resources	6	A	
Y4	**Data Management**	6	B	**Unit Digital audience and analytics**
Y5	Applications of Digital Methods in the Humanities	6	B	
	Optional Courses			
E1	Language Technology	6	B	
E2	Digitization technologies, techniques and applications	6	B	
E3	Interactive design and multimedia	6	C	
	……			
E7	**Special Topics in Digital Methods in Humanities**	6	C	**Digital Humanist course (all units)**

3.2.9 Assessment

Students will be evaluated considering different educational approaches, namely:

- Tests after each learning unit. Students have to pass through all the uploaded on DIGIT platform materials (papers, presentations and video) for each unit and at the end they have to answer questions related to the topic.
- Company check-ups. Students have to carry out research in selected company or institution in cultural heritage sector and prepare short report including their findings.

The final grade of the students/ trainees will be a combination between the tests after each unit on DIGIT e-learning platform and company check-ups as follows

FG = 50% T + 50% Ch-up,

where: **FG** = Final Grade;

T = Test;

Ch-up = Check-up.

Conclusions

This task and research phase was fundamental to align cues, evidences and objectives to pursue the curriculum design and Digital Humanist project further steps. Here the main issues and solutions related to Digital Humanist. field of research and goals are summarized.

Job market and complex, evolving cultural heritage context require high-skilled and motivated professionals to lead contemporary development of this sector in the digital era. Higher education and Life-long learning in Digital humanist field is important to educate young motivated and skilled professionals.

University based Digital humanist courses and curricula in the field of cultural heritage are few, sporadic and marginal within various Bachelor and Master degrees in Europe..

Existing courses and curricula are delivered through traditional face-to-face lectures, whereas solid advanced preparation is made of a balanced mix of traditional and innovative teaching methods involving knowledge, competence building, observation and in field experience.

University based learning is vital to provide further professionals (students) with advanced knowledge, skills and experience to be easily employable in institutions and companies related to promotion of cultural heritage or in the creative industries. They are expected to

fulfill firms' needs and foster value creation and business growth faster, cheaper and more effectively and strategically.

Modern organizations in cultural heritage sector need to have a strategic approach over development of communication and entrepreneurial skills of their employees. Evolved Digital humanist professional profile skills include relational, managerial, analytical, strategic and entrepreneurial capabilities.

Appendix

Table 1. Summary of results: ITALY

Institutions	University of Salerno
Number of participants	Students: 16 Professors: 8 CCI & SMEs representatives: 12 Total: 30
Date and time	14th and 21th of February 2019 90 minutes for each FG
Moderators	Prof. Francesco Colace Domenico Santaniello - assistant moderator
Age	Students: Professors: CCI & SMEs representatives:
Gender	Students: male (45%), female 55%); Professors: male (62%), female (38%) CCI & SMEs representatives: male (50%), female (50%)
Education	Students: master's degrees in the humanities Professors: PhD, employed at UNISA, four from humanities - philosophy, archeology and artistic disciplines, and four from scientific studies such as computer science, electrical computer engineering and economics and management

	CCI & SMEs representatives also were present
Languages spoken	Students: Italian Professors: Italian and English CCI & SMEs representatives: Italian
Experience with digital transformation	70% experienced students, 20% inexperienced students, 10% - have not answered this question

Table 2. Summary of results: GREECE

Institutions	IACUDIT I4G
Number of participants	Students: 8 Professors: 4 CCI & SMEs representatives: 4 Total: 16
Date and time	14th and 15th of February 2019 90 minutes for each FG
Moderators	Prof Viki Katsoni
Age	Students: 22 Professors: 45 CCI & SMEs representatives: 35
Gender	Students: male (35%), female (65%); Professors: male (50%), female (50%) CCI & SMEs representatives: male (25%), female (75%)
Education	Students: Bachelor and Master Professors: Ph Doctors CCI & SMEs representatives: Masters
Languages spoken	Students: Greek and English Professors: Greek and English CCI & SMEs representatives: Greek and English

Experience with digital transformation	50% experienced students, 40% inexperienced students, 10% - have not answered this question

Table 3. Summary of results: SPAIN

Institutions	Universidad de Alicante
Number of participants	Students: 6 Professors: 3 CCI & SMEs representatives: 2 Total: 11
Date and time	10th and 11th of February 2019 65 minutes for each FG
Moderators	Rob Escarre
Age	Students: 21 Professors: 35 CCI & SMEs representatives: 41
Gender	Students: male (33%), female (67%); Professors: male (67%), female (33%) CCI & SMEs representatives: male (50%), female (50%)
Education	Students: Master Professors: Doctors CCI & SMEs representatives: Masters
Languages spoken	Students: Spanish Professors: Spanish and English CCI & SMEs representatives: Spanish
Experience with digital transformation	60% experienced students, 30% inexperienced students, 10% - have not answered this question

Table 4. Summary of results: BULGARIA

Institutions	University of national and world economy (UNWE) - Sofia Chamber of Commerce and Industry – Blagoevgrad

Number of participants	Students: 14 Professors: 4 CCI & SMEs representatives: 7 Total: 25
Date and time	26th and 27th of February 2019 2 hours for each FG
Moderators	Sofia: assoc. prof. Ivan Stoychev, PhD Blagoevgrad: Tatyana Kukoleva
Age	Students: 20-24 years Professors: 34-61 years CCI & SMEs representatives: 41-57 years
Gender	Students: male (57%), female (43%); Professors: male (50%), female (50%) CCI & SMEs representatives: male (29%), female (71%)
Education	Students: 3rd course bachelor students, studying International Economic Relations thought in English at UNWE Professors: PhD, employed at UNWE CCI & SMEs representatives: MA in Entrepreneurship and management, Finance, History
Languages spoken	Students: Bulgarian, English, German, Russian, Spanish, Serbian, French Professors: Bulgarian, English, German CCI & SMEs representatives: Bulgarian, Russian
Experience with digital transformation	57% experienced students, 36% inexperienced students, 7% - have not answered this question

Table 5. Summary of results: POLAND

Institutions	Poznań University of Economics and Business The Wielkopolska Chamber of Commerce and Industry
Number of participants	Students: 14 Professors: 4 CCI & SMEs representatives: 8

	Total: 26
Date and time	18th of March and 8th of April 2019 2 hours for each FG
Moderators	Aleksandra Gawel Maciej Pietrzykowski
Age	Students: 21 – 24 years Professors: 43 – 48 years CCI & SMEs representatives: 23 - 57
Gender	Students: male (57,1%), female (42,9%); Professors: male (50%), female (50%) CCI & SMEs representatives: male (50%), female (50%)
Education	Students: master level - International Management; bachelor level - Project Management and Business Development. Professors: PhD, Economics, employed at PUEB. Courses they teach: Microeconomics, International Entrepreneurship, Project Management, IT, Programming, Data Mining. CCI & SMEs representatives: Economic, Psychology, Philology, Engineering, Journalism, Philosophy
Languages spoken	Students: Polish, English Professors: Polish, English CCI & SMEs representatives: Polish, English
Experience with digital transformation	Majority of students perceived themselves as experienced with digital transformation (declared digital skills and competencies).

Questionnaire: Students

PARTICIPANT NUMBER	
AGE	
GENDER	
EDUCATION (DEGREE LEVEL AND COURSE)	
LANGUAGES SPOKEN	

1. Do you have any parent/relative/friend engaged in digital transformation?

2. Have you any experience (positive or negative) visiting/interacting with digital cultural heritage sites/cultural assets and provided services concerning them? [Provide a few words]

3. How much do you know about **DIGITAL HUMANIST CULTURAL PROMOTIONAL SKILLS**? (1-low level, 5 -high level)

Knowledge assigned to a Digital Humanist	**Level assigned**				
	1	**2**	**3**	**4**	**5**
Strategic/ Interpret the needs for change in cultural, communication models in relation to the specific identities of the territories					
Strategic/ Articulate the communication objectives with respect to the aims identified to valorise the territorial cultural assets					
Technological/ Develop video products with Quick Response (QR) Code, Augmented Reality (AR), three dimensional (3D) elements, Holograms, to increase experiential factors in real life					

Management/ Coordinate the construction of a digital communication project					
Project Management/ Design the digital communication of cultural assets					
Project Management/ Manage the methods and tools according to a cross media and transmedia logic					
Project Management/ Apply the tools to improve the experience of users of cultural contents					
Project Management/ Design narrative communication structures					
Communicative/ Identify and apply tools for more efficacious narrative support					
Narrative/ Manage the nonconventional narration on social networks generated in the field of digital communication					
Narrative/ Apply visual storytelling					
Narrative/ Create narrative posts					

4. How much do you know about **ENTREPRENEURAL SKILLS**, articulated in soft skills? (1-low level, 5 - high level)

Knowledge assigned to a Digital Humanist	**Level assigned**				
	1	**2**	**3**	**4**	**5**
Cognitive, which encompass the logical and methodological skills: analysis, synthesis, problem solving, flexibility, creativity, global vision, spirit of initiative					
Management, which refer to the ability to manage an organization: planning, organization, control, decision, result and customer orientation					

Emotional, which refer to emotional stability and conflict management					
Relational, that foster interaction with others, such as: interpersonal communication and effectiveness, group and meeting management, public speaking, persuasion, negotiation, leadership					

5. Out of the competencies described in points 3 and 4 you have filled out, which one is the most challenging to you? That means, for which one you are least certain of your current knowledge/abilities? [Name only one] Why? [Provide a short justification]

6. How do you think of e-learning, as a training methodology, to acquire the knowledge/skills mentioned in the questionnaire? If it is not a good option, do you have other suggestions like blended learning? [Provide a short justification]

7. What features should a virtual learning environment have to help you develop the skills/ competencies described in the questionnaire? [Justify the elements that should be included"]

Questionnaire: Professors

PARTICIPANT NUMBER	
AGE	
GENDER	
EDUCATION (DEGREE LEVEL AND COURSE)	
LANGUAGES SPOKEN	

1. Could you illustrate the state of the art of the humanistic faculty's educational supply?

2. Could you acknowledge the strengths and areas of improvement to equip the students with the skills needed to become a digital humanist?

3. How much does a digital humanist need to know about **DIGITAL HUMANIST CULTURAL PROMOTIONAL SKILLS**? (1-low level, 5 - high level)

Knowledge assigned to a Digital Humanist	**Level assigned**				
	1	**2**	**3**	**4**	**5**
Strategic/ Interpret the needs for change in cultural, communication models in relation to the specific identities of the territories					
Strategic/ Articulate the communication objectives with respect to the aims identified to valorise the territorial cultural assets					
Technological/ Develop video products with Quick Response (QR) Code, Augmented Reality (AR), three dimensional (3D) elements, Holograms, to increase experiential factors in real life					

Management/ Coordinate the construction of a digital communication project					
Project Management/ Design the digital communication of cultural assets					
Project Management/ Manage the methods and tools according to a cross media and transmedia logic					
Project Management/ Apply the tools to improve the experience of users of cultural contents					
Project Management/ Design narrative communication structures					
Communicative/ Identify and apply tools for more efficacious narrative support					
Narrative/ Manage the nonconventional narration on social networks generated in the field of digital communication					
Narrative/ Apply visual storytelling					
Narrative/ Create narrative posts					

4. How much does a digital humanist needs to know about **ENTREPRENEURAL SKILLS**, articulated in soft skills? (1-low level, 5 -high level)

Knowledge assigned to a Digital Humanist	**Level assigned**				
	1	**2**	**3**	**4**	**5**
Cognitive, which encompass the logical and methodological skills: analysis, synthesis, problem solving, flexibility, creativity, global vision, spirit of initiative					
Management, which refer to the ability to manage an organization: planning, organization, control, decision, result and customer orientation					

Emotional, which refer to emotional stability and conflict management					
Relational, that foster interaction with others, such as: interpersonal communication and effectiveness, group and meeting management, public speaking, persuasion, negotiation, leadership					

5. Out of the competencies described in points 3 and 4 you have filled out, which one is the most challenging to students? [Name only one] Why? [Provide a short justification]

6. How do you think of e-learning, as a training methodology, to acquire the knowledge/skills mentioned in the questionnaire? If it is not a good option, do you have other suggestions like blended learning? [Provide a short justification]

7. What features should a virtual learning environment have to help you develop the skills/competencies described in the questionnaire? [Justify the elements that should be included]

Questionnaire: CCI/SMEs representatives

PARTICIPANT NUMBER	
AGE	
GENDER	
EDUCATION (DEGREE LEVEL AND COURSE)	
LANGUAGES SPOKEN	

1. According to your experience, what is the first thing that a CCI/SME representative who wants to be involved in digital transformation process, should consider and/or do? [Name only one] Why? [Provide a short justification]

2. According to your experience, what are the 3 biggest challenges/difficulties (internal or external) a CCI/SME representative faces on its first steps toward digital transformation? [Provide a short justification]

3. How much does a digital humanist need to know about **DIGITAL HUMANIST CULTURAL PROMOTIONAL SKILLS**? (1-low level, 5 -high level)

Knowledge assigned to a Digital Humanist	**Level assigned**				
	1	**2**	**3**	**4**	**5**
Strategic/ Interpret the needs for change in cultural, communication models in relation to the specific identities of the territories					
Strategic/ Articulate the communication objectives with respect to the aims identified to valorise the territorial cultural assets					
Technological/ Develop video products with Quick Response (QR) Code, Augmented Reality (AR), three					

dimensional (3D) elements, Holograms, to increase experiential factors in real life					
Management/ Coordinate the construction of a digital communication project					
Project Management/ Design the digital communication of cultural assets					
Project Management/ Manage the methods and tools according to a cross media and transmedia logic					
Project Management/ Apply the tools to improve the experience of users of cultural contents					
Project Management/ Design narrative communication structures					
Communicative/ Identify and apply tools for more efficacious narrative support					
Narrative/ Manage the nonconventional narration on social networks generated in the field of digital communication					
Narrative/ Apply visual storytelling					
Narrative/ Create narrative posts					

4. How much does a digital humanist need to know about **ENTREPRENEURAL SKILLS**, articulated in soft skills? (1-low level, 5 -high level)

Knowledge assigned to a Digital Humanist	Level assigned				
	1	2	3	4	5
Cognitive, which encompass the logical and methodological skills: analysis, synthesis, problem solving, flexibility, creativity, global vision, spirit of initiative					
Management, which refer to the ability to manage an organization: planning, organization, control, decision, result and customer orientation					
Emotional, which refer to emotional stability and conflict management					
Relational, that foster interaction with others, such as: interpersonal communication and effectiveness, group and meeting management, public speaking, persuasion, negotiation, leadership					

5. If you had to name one internal (company relevant) and one external (foreign market relevant) factor that could affect the company operations in digital transformation, what would they be? [Provide a short justification]

REFERENCES

The references for the preparation of this report will be given as stated by the partner's countries:

BULGARIA

Anderson, L. W., Krathwohl, David R., and Bloom, Benjamin, S. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.

Bloom, B. S. (1956). *Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain*. New York: David McKay.

Borrissova, V. (2010). Digitizing Cultural Heritage in Bulgaria: A Survey of Intellectual Property-related Experiences and Practices: World Intellectual Property Organization

Busa, R. (2004). *Foreword: Perspectives on the Digital Humanities* (S. Schreibman, R. Siemens & J. Unsworth Eds. Companion to Digital Humanities ed.). Oxford: Blackwell Publishing.

Caffo, R. (2014). Digital cultural heritage and tourism: recommendations for cultural institutions. The Italian Ministry of Cultural Heritage and Activities and Tourism, in cooperation with the AthenaPlus Consortium.

Cohen, D., & Scheinfeldt, T. (2012). *Hacking the Academy: The Edited Volume*. Ann Arbor: University of Michigan Press.

Dalbello, M. (2011). A Genealogy of Digital Humanities. *Journal of Documentation, 67*(3), 480–506. doi: 10.1108/00220411111124550

Gold, M. K. (2012). *Debates in the Digital Humanities*. Minneapolis: University of Minnesota Press.

Hirsch, B., D. (2012). *Digital Humanities Pedagogy: Practices, Principles and Politics*: Open Book Publishers.

Kirschenbaum, M. (2004). *Interface, Aesthetics, and Usability* (S. Schreibman, R. Siemens & J. Unsworth Eds. A Companion to Digital Humanities ed.). New York: Blackwell Publishing.

Kirschenbaum, M. G. (2010). What Is Digital Humanities and What's It Doing in English Departments? *ADE Bulletin, 150*, 55-61.

Lancashire, I. (2009). *Teaching Literature and Language Online*. New York: Modern Language Association of America.

McCarty, W., & Kirschenbaum, M. (2003). Institutional Models for Humanities Computing. *Literary and Linguistic Computing 18*(4), 465-489.

McGann, J. (2006). *The Scholar's Art: Literary Studies in a Managed World*. Chicago Chicago University Press.

Pannapaker, W. (2011a). Big Tent Digital Humanities, Part 1. *Chronicle of Higher Education, 31*(June).

Pannapaker, W. (2011b). Big Tent Digital Humanities, Part 2. *Chronicle of Higher Education, 18*(Sept).

Scholz, T. (2011). *Learning Through Digital Media: Experiments in Technology and Pedagogy*. New York: Institute for Distributed Creativity.

Sula, C., A., & Hill, H. (2016). The Early History of Digital Humanities. School of Information, Pratt Institute, United States of America.

Svensson, P. (2009). Humanities Computing as Digital Humanities. *Digital Humanities Quarterly, 3*(3).

Svensson, P. (2010). The Landscape of Digital Humanities. *Digital Humanities Quarterly, 4*(1).

Svensson, P. (2012). *Beyond the Big Tent* (M. K. Gold Ed. Debates in the Digital Humanities ed. Vol. 3). Minneapolis: University of Minnesota Press.

ITALY

S. D. Oliner and D. E. Sichel, "The resurgence of growth in the late 1990s: is information technology the story?," *J. Econ. Perspect.*, vol. 14, no. 4, pp. 3–22, 2000.

I. Dey, *Qualitative data analysis: A user friendly guide for social scientists*. Routledge, 2003.

A. Mislove, M. Marcon, K. P. Gummadi, P. Druschel, and B. Bhattacharjee, "Measurement and analysis of online social networks," in *Proceedings of the 7th ACM SIGCOMM conference on Internet measurement*, 2007, pp. 29–42.

P. N. Massimo De Santo Francesco Colace, *Informatica per le arti visive, la musica e lo spettacolo*. McGraw-Hill, 2012.

I. Duncan, A. Miller, and S. Jiang, "A taxonomy of virtual worlds usage in education," *Br. J. Educ. Technol.*, vol. 43, no. 6, pp. 949–964, 2012.

J. D. Novak and D. B. Gowin, *Learning how to learn*. Cambridge University Press, 1984.

POLAND

Addis M., (2005), New technologies and cultural consumption – edutainment is born!, European Journal of Marketing, Vol. 39 Issue: 7/8, pp.729-736, retrieved from https://doi.org/10.1108/03090560510601734, access on Feb 12th 2019.

Banasiak A., (2017), Nowe modele w szkole podstawowej (ang. New models in the elementary school), Lubelski Rocznik Pedagogiczny, T. XXXVI, z 1.

Bomba R., (2013), Narzędzia cyfrowe jako wyznacznik nowego paradygmatu badań humanistycznych, In: in: Radomski A., Bomba R. (ed.) Zwrot cyfrowy w humanistyce (ang. Digital return in humanistics), E-naukowiec, Lublin.

Celiński P. (2013), Renesansowe korzenie cyfrowego zwrotu (ang. The Renaissance roots of digital return), in: Radomski A., Bomba R. (ed.) Zwrot cyfrowy w humanistyce (ang. Digital return in humanistics), E-naukowiec, Lublin.

Doueihi M., (2013), About Digital Humanism, translated from French by Moss P., Retrieved from https://www.inaglobal.fr/en/ideas/article/about-digital-humanism access on Feb 12th,2019.

Dziak A., (2014), Cyfrowe strategie badań i edukacji humanistycznej (ang. Digital strategies for humanistic research and education), Postscriptum Polonistyczne, 2(14), pp. 185-204.

Fry, H., Ketteridge, S., Marshall, S., (2009), Understanding Student Learning. In: Fry, H., Ketteridge, S., Marshall, S. (eds.), A Handbook for Teaching and Learning in Higher Education. Enhancing Academic Practice. Routledge Taylor & Francis Group, New York and London

Kolb, D.A., Boyatzis, R.E., Mainemelis Ch., (2001), Experiential Learning Theory: Previous Research and New Directions. In: Sternberg, R.J., Zhang, L.-F., (eds.), Perspectives on Thinking, Learning, and Cognitive Styles. Lawrence Erlbaum Associates, Mahwah.

Kolb, D.A., (1984), Experiential Learning: Experience as the Source of Learning and Development. Englewood Cliffs, Prentice Hall, New York.

Meehan P., Prentice B., (2015), Digital Humanism makes people better, nit technology better, Gartner, Retrieved from

http://docs.media.bitpipe.com/io_12x/io_124023/item_1150156/digital_humanism_makes_peopl_276733.pdf access on Feb 12th,2019.

Pieriegud J., (2016), Cyfryzacja gospodarki i społeczeństwa – wymiar globalny, europejski i krajowy (ang. Digitalisation of the economy and society – global, European and national dimension), in: Gajewski J., Paprocki W., Pieriegud J. ed., Cyfryzacja gospodarki i społeczeństwa. Szanse i wyzwania dla sektorów infrastrukturalnych (ang. Digitization of the economy and society. Opportunities and challenges for infrastructure sectors), Instytut Badań nad Gospodarką Rynkową – Gdańska Akademia Bankowa, Gdańsk.

Pritchard, A., (2009), Ways of Learning: Learning Theories and Learning Styles in the Classroom. David Fulton Publishers

Puentedura, R. R. (2006, November 28). Transformation, technology, and education in the state of Maine [Web log post]. Retrieved from http://www.hippasus.com/rrpweblog/archives/2006_11.html, access on Feb 12th,2019.

Radomski A., (2014), O potrzebę wizualizacji w naukach o kulturze, (ang. For the need of visualization in the sciences of culture), Retrieved from https://www.academia.edu/4081117/135865161_O_potrzebe_wizualizacji_wiedzy_w_naukach_o_kulturze, access on 11.02.2019

Recke M. (2019), What is Digital Humanism? Next Conference, retrieved from https://nextconf.eu/2017/11/what-is-digital-humanism/#gref access on Feb 12th,2019.

Wach-Kąkolewicz A., (2016), Constructivist Approach in Teaching in Higher Education, in: Wach-Kakolewicz A., Muffoletto R., (ed.) Perspectives on Computer Gaming in Higher Education, Bogucki Wydawnictwo Naukowe, Poznań.

Zorica M., B., (2014), Edutainment at the Higher Education as a new element for the learning success, Proceedings of EDULEARN14 Conference 7th-9th July 2014, Barcelona, Spain.

Co-funded by the Erasmus+ Programme of the European Union