



VIRAL CPD TRAINING COURSE CURRICULUM

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INTRODUCTION

With a starting point in the archives and cultural heritage across Europe's post-industrial communities, specifically using five archives from Dornbirn (AT), Wuppertal (DE), Osijek (HR), Torres Novas (PT) and Coventry (UK), and the adult educational skills of all the partners the project VIRAL aims to enrich the key competences of adults facing fewer opportunities through a new adult education program for using virtual reality (VR), augmented reality (AR) and 360-degree movies (360) technology tools and documentary methods. ELearning Studios (UK) leads on the production of set of virtual reality (VR), 360 degree-movies (360) and augmented reality (AR) training resources for adult education in a context of safeguarding the memories of local industrial heritage.

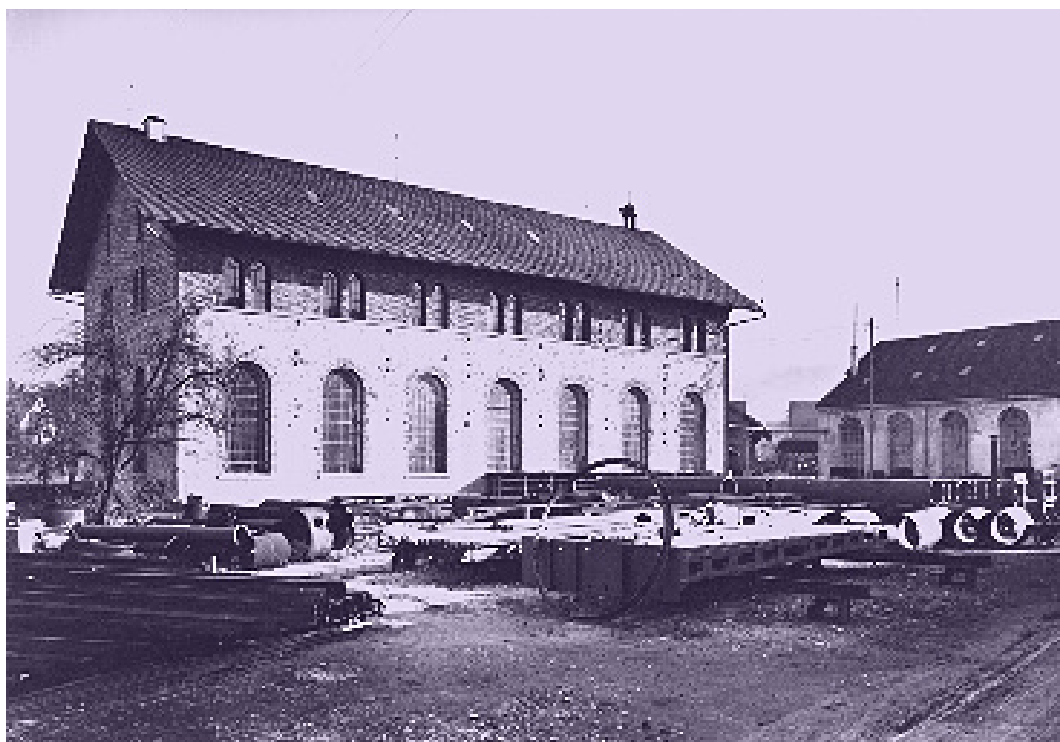
This training course curriculum has been developed for the "ViRAL – Virtual Reality Archive Learning" under the key action "Cooperation for innovation and the exchange of good practices – strategic partnerships" of the European Union programme ERASMUS+ for Education, Training, Youth and Sport.

Elderberry AB with the support of the project consortium, was responsible for the coordination and development of this curriculum, as leader of the Intellectual Output 4 "ViRAL Training Course Curriculum".

The purpose of the ViRAL Training Course Curriculum is to create a framework for adult educators in delivering and using the AR/VR/360 and supporting educational material developed within the context of the project and show how it can be used in training scenarios in combination with the eLearning "quests".

In the first chapter "ViRAL Training Course Curriculum" the authors introduce the aim and objectives, target groups, and the results of the needs analysis consultation conducted that supports and helps justify the needs for developing and implementing the VIRAL programme, followed by a conceptual framework.

The document also presents an extended explanation about the outcomes of this project; the ViRAL Competences Matrix and Educator notes, the ViRAL Web Quests (E-learning material); and the ViRAL Methodology Handbook. Each of these chapters introduces the aim and objectives of the educational material followed by a detailed explanation on how to use those with practical examples. Considering the importance of adult educators and trainers, as a specific target group of this project, for the recognition of post-industrial landscapes as important educational resources this document also includes chapters with pathways and suggestions on the thematic "Post-Industrial Landscapes and Adult education".



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AIMS AND OBJECTIVES

The VIRAL project draws on the lessons of previous innovative initiatives on practical and experiential projects exploring the pedagogical potential of using cultural heritage for adult education. It is known today that cultural institutions such as heritage sites, museums, archives, libraries or other cultural centres offer a variety of educational and learning programmes. The range and scope of those programmes engage different target groups in continuous learning experiences and activities often consider non-formal and informal methods . The European Union programme for Education, Training, Youth and Sport (Erasmus+) underlines a new approach based on synergies and interaction between formal, informal and non-formal learning. The VIRAL project has developed a curriculum that is able to meet that goal by enhancing a specific field of the cultural heritage – post-industrial heritage and using methods that are familiar to young adults such as AR/VR and 360 videos.

The re-use of old industrial sites and reutilisation as museums, cultural spaces and innovation centres, has been seen as an opportunity to regeneration of socially disadvantaged areas. National and European policies for the safeguard of heritage reinforce the idea that it is necessary to intervene in these sites. VIRAL extends this concept by regenerating educational paths and updating skills in AR/VR and 360 videos.

This concept is embedded in a process of regeneration which follows the trends towards recovering industrial sites widespread in Europe in the past decades, at the same time valuing dynamically their educational and touristic potential. Using the latest technology makes it possible to identify a set of documented needs and difficulties by relating them also as key challenges for the development of the VIRAL project.

1 Non-formal learning according to the CEDEFOP definition is “Learning which is embedded in planned activities not explicitly designated as learning (in terms of learning objectives, learning time or learning support), but which contain an important learning element. Non formal learning is intentional from the learner’s point of view. It typically does not lead to certification.”

IDENTIFIED NEEDS/DIFFICULTIES

High rates of young/adult unemployment; population decline; growth of an ageing population; incapacity for a demographic renewal and entrepreneurial dynamism; cultural heritage mostly seen as an undervalued contribution to economic growth and social cohesion.

The closure of important industrial plants; the economic and social problems communities face when industries close; the existence of industrial assets that in some situations are unknown, unexplored or in a state of negligence or abandonment.

Despite the alignment of the international charter for industrial heritage on education and training, documents focus only on groups included in the traditional levels of education (primary, secondary and higher education); a lack of specialised adult education and training programmes oriented for an adult target group concerning post-industrial heritage and landscape cultural projects; a growing demand for working tools in this specific area by the individuals in the identified target groups.

A recognised lack of “new technology skills” amongst adults (and adult educators)

The VIRAL priority is to set the bases on education and training utilising AR/VR/360 in the setting of post-industrial heritage and landscapes by raising awareness of the necessity of methodologies and educational materials in this specific area. The partnership developed the project based on the assumption that working on such a specific thematic will help create better understanding between formal, non-formal education, vocation and training and other forms of learning and labour market. And this can be easily understood by the definition of the target groups of this project.

KEY CHALLENGE /OPPORTUNITIES

Development of structured projects on culture and heritage connected to different fields of expertise in adult education, such as science and technology, the arts and culture, as opportunities for innovation and more social and cultural awareness.

The interest in AR/VR and 360 video by a younger generation

Post-industrial sites as museums and cultural centres are becoming more community-oriented, they must be led by adult educators and their know-how, for that specialized programmes on education and training crossing methodologies on cultural heritage and using AR/VR/360 can be a resource of social innovation for smart, sustainable and inclusive growth; culture and knowledge as an excellent way of sharing, learning, promotion and development.

TARGET GROUPS

1ST TARGET GROUP **Unemployed people, ex-workers needing to re-skill and also young adults. Adults facing fewer opportunities**

The project aims to create the methodologies and material that will help raise the awareness of new jobs opportunities in the cultural and heritage sector. In the specific case of ex-workers it's vital to understand that they are important for the preservation of industrial heritage. So including them in post-industrial heritage projects is an opportunity to re-skill based on their know-how experience.

2ND TARGET GROUP **Professionals of institutions working with post-industrial heritage and landscapes** lacking adult education methodologies to harness the potential. From previous research, and based on the work experience of some staff members of the current partnership, there is a lack of 'hands on' training in this area. The overall intended impact is to increase the number of adult education providers confidently using the material and to create a cascade effect whereby one adult education provider becomes confident in using the material and develops successful ways of implementing it and then pass this on to colleagues and shares ideas to stimulate confidence and growth in this area.

Adult educators and trainers lacking in Heritage Education skills. This group includes teachers of all education levels (pre-school; primary; lower secondary; upper secondary; vocational education; adult education; higher education).

Adult educators and trainers lacking in AR/VR/360 video skills

One of the most important subjects of concern was to cover all range of work experiences with the different target audiences of the partners involved in this project. The VIRAL partnership is composed of adult education specialist organisations, three public organisations working with cultural and heritage, one city archive.

The main objective is to engage all those groups in active and continuous learning activities by using post-industrial heritage and landscapes as an educational resource. To comply with this purpose the partnership developed a set of activities to help improve the educational competence of both professionals working with post-industrial heritage and new technologies and groups that may use such sites for education and training, by helping them acquire new skills.

NEEDS ANALYSIS CONSULTATION

The starting point for the training course curriculum development was the conduct of a needs analysis amongst partners and associated partners to verify the true training needs in the specific area of post-industrial heritage and AR/VR/360 videos in relation with the identified target groups. The majority of the respondents were professionals working in heritage work in archives and museums or adult education.

When questioned about their training needs the majority of the institutions, especially the archives and museums, indicated the need for updating skills in AR/VR and the use of 360 cameras for making videos. Educational programmes in archives and museums differ from one country to another. Most of the institutions were interested in developing non-formal learning practices. The descriptions of the training and professional development needs served as an important benchmark for the development of an index of competences which developed into a Competence Matrix defining learning outcomes, skills, competences and knowledge which formed the basis of our eLearning “Quest” training material. The areas were defined as:

- Exhibition (making exhibitions more user friendly and engaging);
- Education and engagement of teachers, trainers and other training professionals;
- Archival engagement (making archives accessible);
- Digitalisation (digitalising collections and making them accessible online);
- Communication and dissemination to the general public.
- Developing skills in using AR/VR/360 for informal education in heritage site, archives and museums;
- Inventory and collections management;
- How to create new audio-visual documents to record the immaterial heritage;
- Cultural heritage as a driver of development;

The majority of the respondents work within the context of post-industrial and also provided information about the industrial typology leaving us with more material to use in the educational exercises. This list was extended by the answers given by adult educators. It was important to focus the adult educators on the use of post-industrial heritage sites, as an extension to the most usual study trips, to contribute to a diversification to the educational practices. This will be explored in the chapter of this curriculum dedicated to the e-learning materials.



VIRAL CONCEPTUAL FRAMEWORK

The conceptual framework presented here is the result of collecting information on best practice/case studies and teaching methodologies in the post-industrial thematic conducted within the first stages of outcomes ViRAL Methodology Handbook, ViRAL Web Quest – eLearning Material and ViRAL CPD Training Course Curriculum. The case studies researched had to include four areas of study reflecting the working nature of heritage sites, collections and functions, highlighting the role they play in training and engaging target groups, as well as wider participation:

1. Collections – training is used to skill target groups in working with collections (public and private), documents, artefacts, objects etc.
2. AR/VR/360 skills trained for archive and museum staff.
3. AR/VR/360 skills trained for adult educators
4. Education – where expertise from ex-workers has been used to interpret, explain and provide context to collections, exhibitions and post industrial sites.

Additionally the case studies had to look at best practice in the training of ex-workers, the unemployed and young adults to:

5. Become good guides, explaining and interpreting post-industrial collections in museums/archives/heritage sites.
6. Work with industrial artefacts/ industrial sites/plants to engage audiences, provide support to the sector and work alongside professionals in interpreting collections and exhibitors – providing representation from a diverse group of communities.
7. Work with post-industrial collections including old photographs, archival documents, artefacts and objects in the context of co-creation, participation and shared knowledge.
8. Work with digital media and equipment to interpret, provide access and share post-industrial collections, exhibitions and sites.

VIRAL HANDBOOK

This ViRAL Handbook is designed to help educators who wish to develop a program, course or curriculum derived from the ViRAL material. The guide is designed to give educators and decision makers, an overall view of how to use and implement the ViRAL methodologies into adult education. The context of the VIRAL project is exploring and documenting the industrial heritage of their local communities. VIRAL aims to offer skilling and/or upskilling paths for adults in new key competences and at the same time equip adult educators and cultural heritage professionals in collecting and archiving heritage material. The resources in this handbook can be used to support theory into practice and give inspiration through the following areas: Educational Essays, Case Studies, Key Terms of Reference. Each partner researched several case studies following the guidelines listed in items above and the²material resulted in the “ViRAL Methodology Handbook”. The structure of this content framework is purely indicative but can work as a parameter for adult educators to develop their own learning activities promoting t other thematic interactions. The research also led to the development of a ViRAL competence matrix defining the Learning Outcomes, Skills , Competences and Knowledge to be developed for the end users target groups.

LEARNING OUTCOMES AND COMPETENCE MATRIX

The Learning Outcomes Matrix (LOM) presents the key competences to be achieved by adult learners in a context of safeguarding the memories of their local industrial heritage. The LOM has been compiled according to the European Qualification Framework (EQF) as a set of learning outcomes (LO) - in terms of knowledge, skills and competences. The LOM represents learning outcomes in EQF level 3,4 and 5 - in terms of knowledge, skills and competences. The LOM is drawn from and complements the methodological framework and illustrates the key competences and skills can be acquired through ViRAL in adult education, informal and non-formal learning. The key-competences developed were developed during the training needs analysis conducted by each partner with their Local Working Group consisting of experts from the respective areas of the project. and follow the new Commission "Recommendation on Key Competences for Lifelong Learning" (2018), namely: - STEM, languages, digital, literacy, cultural awareness and expression, entrepreneurship, civic and - personal, social and learning. The matrix also identifies which VR, AR and 360 training resources will support the development of the LO. It is designed following the rubric methodology and establishes the criteria for assessing progress related with the complexity required by the various EQF levels to acquire the foreseen new key competences.

GENERAL CURRICULA CONCEPTS FOR WORKING AT THE POST-INDUSTRIAL MUSEUM/ARCHIVE/HERITAGE SITE

What can be done?

Working with industrial artefacts/ industrial sites/plants

Working with collections: documents, artefacts

Working in the design of an exhibition; the

process of installing an exhibition Working as an educator or a guide

Cross Curricula

Inventory.

Investigation.

Exhibitions.

Education.

Visiting a post-industrial museum/archive/heritage site

What can be done?

Engaging with Education

Engaging the community

Organising and training people (for example, volunteers, ex-workers, etc.)

Cross Curricula

Schools.

Vocational training colleges: technical, artistic, etc.

Special needs.

Different types of post-industrial heritage sites and their use in vocational training (artistic)

What can be done?

Using post-industrial sites for exhibitions.

Using industrial artefacts for art.

Cross Curricula

INDUSTRIAL HERITAGE AND THE ARTS

The re-use of old plants for the placement of creative industries vs the use of post-industrial heritage (buildings, machinery, testimonials, documents, etc.) as an artistic vehicle?

Unlocking collections

Co-creation and participation

Representation of diverse groups and communities

Ethics

What does the socially purposeful museum and archive look like?

What are the characteristics?

What work is it engaged in?

Values and principles.

Organisational change, organisational issues. Audience engagement.

Using technologies

Site specific

Urban Sketching

Different types of post-industrial heritage sites and their use in vocational training (social)

What can be done?

What are the issues of significance to society?

Cross Curricula

Globalisation and migration.

Identity.

Aging populations.

Unemployment.

Environmental pollution.

Sustainability.

Post-industrial heritage sites and their use in adult education (History of Technology)

What can be done?

Looking at the technological processes. Compare then and now, how were they powered? Use the post industrial sites and their technology to look at older industrial techniques and materials.

Industrial Villages and towns.

Cross Curricula

Metal fabrication.

Olive oil press.

Mining.

Docks, harbours, canals, shipbuilding. Textile production.

Mechanical industries small scale. Mechanical industries large scale (steel). Car manufacture.

Canning, food industry.

Steam power.

Mechanical conversion of power through mechanisms.

Water power.

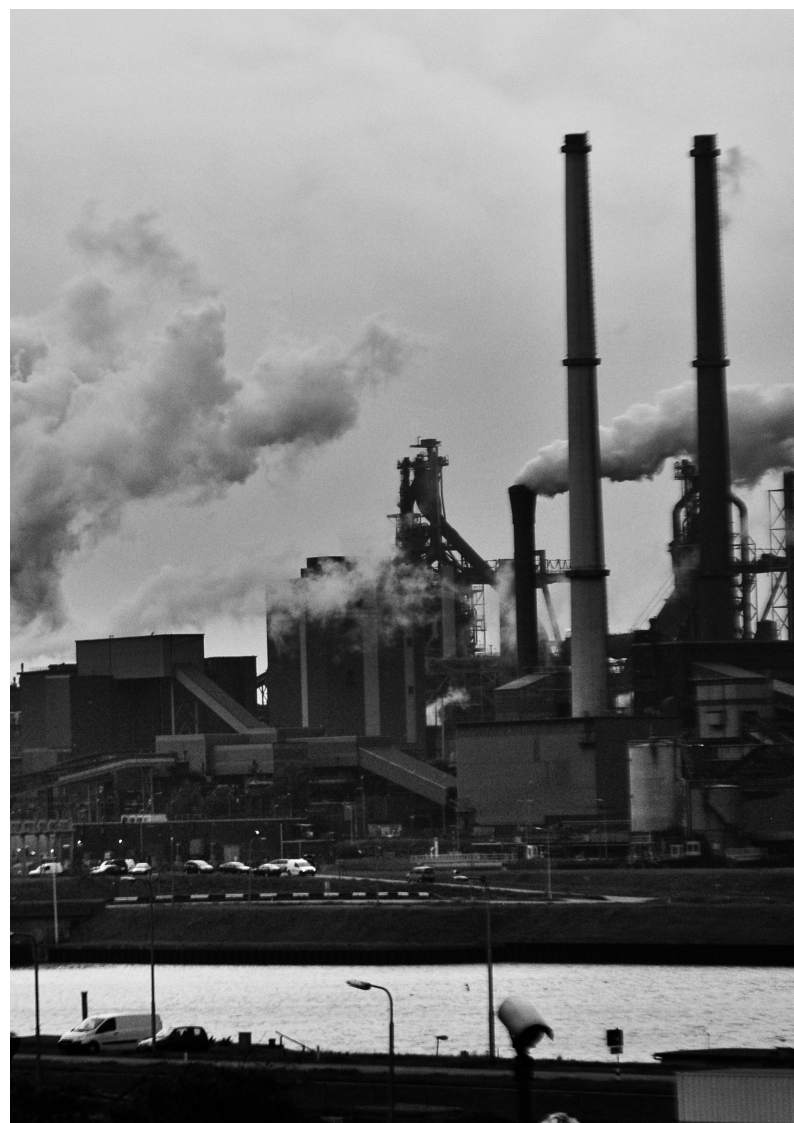
Pumping.

Modern TIG, MIG welding techniques vs adult education, braising, oxyacetylene and arc welding.

Wrought iron and cast iron.

Block and tackle.

How people lived?



EDUCATOR NOTES AND HOW TO USE IN SETTING UP A CURRICULUM

The ViRAL educator notes are for Adult educators, including teachers and trainers of all education levels, who wish to form their own tailor-made course plan as part of a larger curricula framework. The educator notes present tips and ideas on how to use a selection of quests and productions, and productions to adapt a course directed at the needs of their learners. It contains notes on using and delivering the AR/VR/360 and other supporting educational material, such as instructional videos developed within the context of the project. They show how the material can be used in training scenarios/modules/courses in combination with the ViRAL quests (read more below).

Archives, and museums have an important significance for educational institutions as extracurricular places of learning. The combination of visiting industrial heritage sites and exploring their historical situation through VR/AR/360 videos and studying historical documents about this site, offers excellent learning opportunities in adult education.

The material provides the learner with an overview of the effects of using machines in the world of work, how working conditions have changed etc, through various examples and receives some inspiration for questions on the local history of industrial heritage. It also provides tips and ideas on how to use AR/ VR and 360 videos to support this aim.

Educators will ask the learners to, together with the information received from a virtual tour, compare and contrast the stories from factories from their own local industrial heritage and to compile this into an end-product – for instance a blog or a vlog. The ViRAL Quests, too, offer lots of help, and support in this process (below).

Adult educators can develop material to support teaching on-site, for example in a museum or online via video conference, in a way that the educator shares his / her screen with the learners. The topics educators can discuss with the learners are presented, such as making your own exhibition, an abandoned factory, a part of town, or a personal item. The notes explain what they are, and where to find, the historical sources in which original and authentic information is found on the topic they are researching. The notes also help the learners find other sources that can be used and show where they can get the necessary information, such as archives and museums. The educator notes discuss how to develop interviewing skills as a good way to learn more about the chosen topic and ask learners to think about, and design topics for digital documentation. The notes show where learners can work individually or in teams. They introduce learners to free applications which they can use when creating their content.

Through digitized productions and documentation, museum and archive content becomes available to all users who have access to the Internet. Introducing a virtual tour into a training curriculum can be educational and fun. Educational because we gain new knowledge, we get to know different cultures and different perspectives and use new technologies for learning, and fun because we independently explore the content offered in a way and a moment of time that suits us.

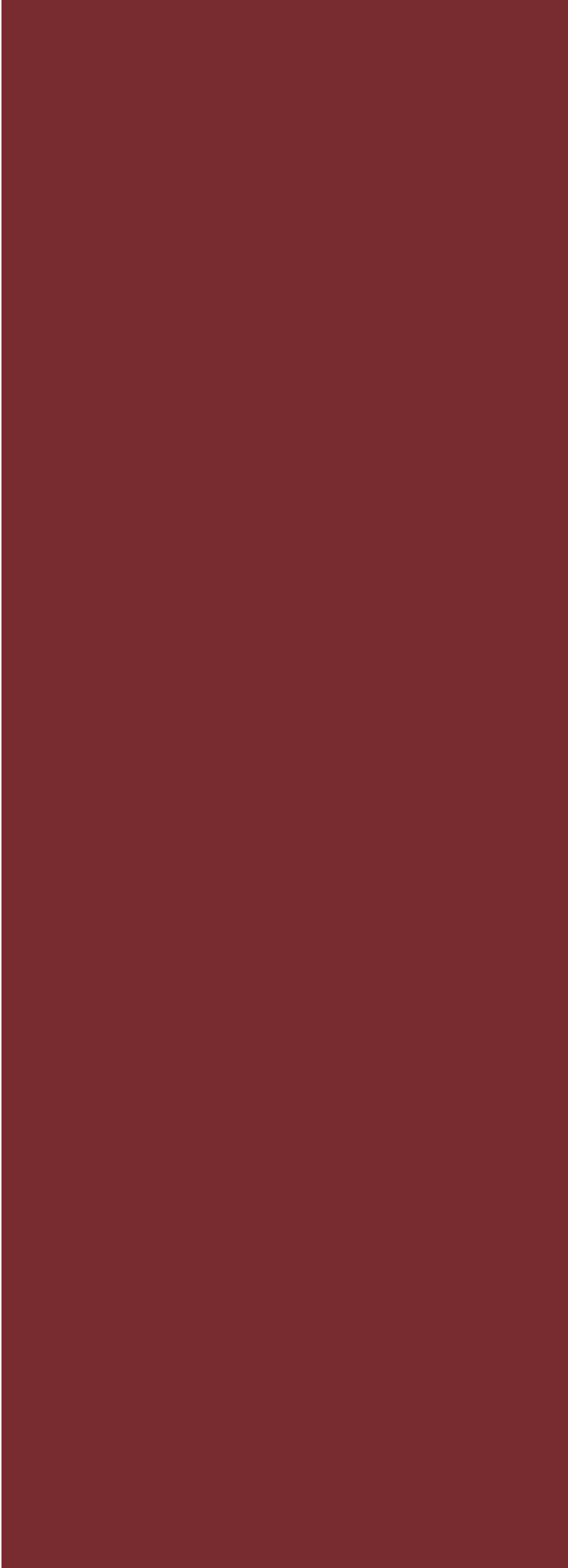
Our interactive quests system is easy to use and intuitive and is designed to provide learners the choice to go through the menu of assignments at their own pace. The quest based learning and their unique pedagogies imply a practice somewhere between the serious work of education and the playful exploits of gaming.

Our quests are organised around the learners choice where participants choose from pools of individual quests (introduction, task, process, conclusion and videos and links) that accumulate experience points to satisfy the needs of the standards and curriculum. This highly personalised and tailored approach to instructional delivery when combined with contents of interest (cultural heritage) shows promise as a compelling and powerful tool for learning and engagement.

Essentially the twenty two quests are divided into eight key categories which were: STEM, Languages, Digital Competencies, Literacy, Cultural Awareness and Expressions, Entrepreneurship, Civic, Personal Social and Learning.

We have ensured the quests are divided into three levels and have followed EQF Level 3 to 5. This will enable learners of different abilities to engage with the content and develop their skills and competencies. Also learners are encouraged to use multimedia and other visual aids.

We have found 'teaching' adults about cultural heritage via the quests system is far more engaging than traditional learning methods. The quests are designed to use the learners' time well, to focus on using rather than searching for information, and to support learners' thinking at the levels of analysis, synthesis and evaluation. The quest model we have used creates a more meaningful online learning environment.





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