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VET Methodology

WP 3 – Del 3.2

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Abbreviations

CECO – Community Engagement and Communication Officer

C-VET – Continuing vocational education and training

DigComp – European Digital Competence Framework for Citizens

DIGY – Digital Transformation Facilitator

EntreComp – European Entrepreneurship Competence Framework

e-CF – European e-Competence Framework for ICT professionals

ECVET – European Credit System for Vocational Education and Training

ECTS – European Credit Transfer System

EQAVET – European Quality Assurance in Vocational Education and Training

EQF – European Qualifications Framework

ESCO – European Skills, Competences, Qualifications and Occupations

EU – European Union

I-VET – Initial vocational education and training

LOs – Learning Outcomes

MEP – Monitoring and Evaluation Plan

MOOC – Massive Open Online Course

NQF – National Qualifications Framework

OER – Open Educational Resource

QA – Quality Assurance

VET – Vocational Education and Training

WBL – Work Based Learning

WP – Work package

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Introduction

The BIBLIO project in a few words

The project BIBLIO addresses the skills gap in the library sector due to the digital transformation that is changing the role of libraries and library professionals. The project facilitates the acquisition of digital, entrepreneurial and transversal skills for library professionals, to respond to the digital transformation by setting up a system for skill assessment, learning offer and validation and recognition. BIBLIO is implemented by a consortium of ten organisations from five EU countries (Belgium, Bulgaria, Greece, Italy, Latvia), including sectoral organisations, library networks and library/archives organisations, universities, VET providers, and two European networks.

The project started by analyzing the training needs and offers in the library sector in order to identify a set of emerging job role profiles: for each of them, a modular VET curricula at EQF level 5 has been designed, applying a specific VET methodology based on learning outcomes and on the blended learning principles, in order to facilitate the acquisition of knowledge, competencies and skills based on the exploitation of various learning settings.

The delivery of the VET curricula is based on a set of digital OERs that have been developed to support the acquisition of more than 40 digital, entrepreneurial and transversal competencies. Based on the training contents previously identified, project partners have developed:

1) MOOCs addressed to European library professionals for acquiring the identified competencies of new job role profiles.
2) A Specialisation Training Course includes face-to-face, virtual learning, project-based learning, and a work-based learning phase; training will be delivered via an online platform that stimulates sharing and exchanging knowledge, experiences, and best practices. The WBL phase will also include inter-generational learning. European qualification instruments (EQF, ECVET and EQAVET) will be applied, facilitating the recognition and validation of qualifications. Job role profiles will be mapped to the DigComp framework, EntreComp framework and European e-Competence framework.

BIBLIO will have a significant impact in the librarianship and library sectors, mostly on library professionals and unemployed people, by enabling them to activate and offer innovative services for users.

Training modules included in BIBLIO VET Curriculum for entrepreneurial and transversal skills are mapped into the European e-Competence framework (level e-2).

VET Methodology used for the delivery of the VET curricula

One of the specific objectives of the project is to develop a VET Methodology that can be adapted to national needs, composed of MOOCs, and specialization courses integrating a) blended training courses and b) work-based learning. The VET Methodology is based on learning outcomes and principles of adult education for developing:

- modular, high-quality VET curricula in the librarianship and library sectors; new approaches to education and competence development that capitalize on the full potential of various learning settings;

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- procedures to validate the formal, non-formal and open, informal learning in the library sector; a strategy for mapping VET curricula to EQF and NQFs of the participating countries.

The methodology takes into account the principles of ECVET and EQAVET and the requirements of the library sector.

The VET curricula developed within the project addresses EQF 5. Initially, approximately 40 modules were to be developed; however, after the research phase and external experts evaluation, the following number of modules has been structured:

- 20 modules for digital competencies (mapped to DigComp framework levels 5-8);
- 18 modules for entrepreneurial and transversal skills (mapped, e.g. to the EntreComp framework levels 5 - 6 and European e-Competence framework level e-2).

The training programme will be tested in 4 pilot countries (Italy, Bulgaria, Latvia and Greece) and will be aimed at delivering the curricula that will be structured as follows:

- Massive Open Online Course (MOOC) 80 hours
- Specialization course:
    - Blended Training – in total 240 hours (20h assessment):
        - Classroom training (20h)
        - Online classes and self-study (160h)
        - Project-based learning (40h)
    - Work-based learning – in total 165 hours (5h assessment)

The curricula will be made publicly available for uptake by VET institutions teaching librarianship, specifically in partner countries, but also for other stakeholders in Europe.

Intended recipients and contents of the document

This document is addressed to any expert and practitioner interested in adult education for digital entrepreneurs and transversal competence development, especially to librarianship and library professionals, sectoral organizations (local, national, academic libraries and their networks), VET providers, authorities and project stakeholders.

The present document is articulated as follows:

Chapter 1: VET qualifications at EU level – competency frameworks are described, in which the proposed competency development modules are mapped. As well as European Qualifications Instruments applied, facilitating the recognition and validation of qualifications.

Chapter 2: Emerging job role profiles and modular VET Curricula – general and module descriptions of two emerging job role profiles, as well as a competence-based modular VET curriculum for both job role profiles.

Chapter 3: Training methods and tools – training methodological approach, training materials development and a combination of different training/learning types. Requirements for participation in training for trainers, employers and trainees.

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Chapter 4: Piloting, learning assessment and competence validation – piloting countries, aim and structure. Learning assessment in different training/learning types and competence validation across the EU.

Chapter 5: Quality assurance, evaluation and monitoring – strategy of quality assurance to evaluation and monitoring the progress towards outcomes to be achieved.

Based on the feedback and results of the training pilots, the methodology will be revised and updated. The pilot training contents will be available online in 5 languages: English, Italian, Greek, Latvian and Bulgarian. Moreover, it will be published along with the VET curricula for the wider European library communities interested in adapting materials for their use. This project opens the field to further research and developments in how digital technologies can be integrated into librarianship and the emerging skills needs.

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1 VET qualification at EU level

Vocational Education and Training (VET) ensures skills development in a wide range of occupational fields, through school-based and work-based learning. It plays a key role in ensuring lower school dropout rates and facilitates the school-to-work transition. In a changing world of work, well-designed VET systems can play a crucial role in developing the right skills for the labour market, not only for youth but also for adults in need of up-skilling or re-skilling.[1]

Vocational education and training (VET is a key element of lifelong learning systems, which seeks to equip citizens with knowledge, skills and competences required in particular occupations and on the labour market. Vocational education and training (VET) systems consist of initial and continuing VET.

- **Initial vocational education and training (I-VET)** are usually carried out at the upper secondary and post-secondary levels before students begin working. It occurs either in a school-based environment (mainly in the classroom) or in a work-based setting, such as training centres and companies. This varies from country to country, depending on national education and training systems and economic structures.
- **Continuing VET (C-VET)** takes place after initial education and training or after beginning working life. It aims to upgrade knowledge, help citizens acquire new skills, retrain and further their personal and professional development: "*C-VET is largely work-based mainly, with the majority of learning taking place in* the *workplace*."[2]

The project BIBLIO is in line with the Bruges Communiqué, stating that we need to improve the capacity of VET to respond to the changing requirements of the labour market. Integrating changing labour market needs into VET provision in the long term requires a better understanding of emerging sectors and skills, and of changes to existing occupations. Starting by the analysis of the changing training needs of the library sector, the project has identified the skills needed to respond to the rapidly changing labour market.

Thanks to the methodological approach based on the creation and validation of new VET curricula, according to ECVET and EQAVET and with a strong WBL component, the project responds to the 2015 Riga Conclusions on VET and the Medium Term Deliverables for 2015-2020. In order to develop high quality and labour market-relevant vocational skills and qualifications, VET providers should:

1) Promote work-based learning in all its forms;
2) Further develop quality assurance mechanisms in VET in line with the EQAVET recommendation,
3) Further strengthen key competencies in VET curricula and provide more effective opportunities to acquire or develop those skills through I-VET and C-VET.

Providers pursue adult learning for various reasons: to enhance their employment prospects, develop personally or professionally, and obtain transferable skills, such as critical thinking. Moreover, they must rely on continuous professional development to remain competitive in the labour market: "*A focus on adult learning is vital for Europe to overcome the challenges it is currently facing, as well as to respond to the demand for new skills and sustained productivity in an increasingly digitalised world.*"[3]

[1] http://www.oecd.org/fr/education/innovation-education/vet.htm

[2] https://ec.europa.eu/education/policies/eu-policy-in-the-field-of-vocational-education-and-training-vet_en

[3] https://ec.europa.eu/education/policies/eu-policy-in-the-field-of-adult-learning_en

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1.1 Competency frameworks

The BIBLIO proposal facilitates the acquisition of digital, entrepreneurial and transversal competencies for library professionals to respond to the digital transformation of the library sector by setting up a system for skill assessment, learning offer and validation and recognition. The developed competency development modules have been mapped within the DigComp framework (levels 5-8) and within the EntreComp framework (up to levels 5-6 because librarians are not entrepreneurs) and the e-CF (level e-2).

1.1.1 European Digital Competence Framework for Citizens (DigComp)

The pilot training methodology uses the DigComp framework to map the LOs of the new VET curricula to the 5 different areas of the framework (levels 5 - 8). Competencies are mapped into the 8 proficiency levels foreseen by the DigComp 2.1 framework. DigComp identifies 5 competence areas and 21 specific competencies that outline the digital competence's key components, as illustrated in Table 1 below.

Table 1 – DigComp 2.1 areas and specific competencies

Area 1 – Information and data literacy
1.1 Browsing, searching and filtering data, information and digital content
1.2 Evaluating data, information and digital content
1.3 Managing data, information and digital content
Area 2 – Communication and collaboration
2.1 Interacting through digital technologies
2.2 Sharing through digital technologies
2.3 Engaging in citizenship through digital technologies
2.4 Collaborating through digital technologies
2.5 Netiquette
2.6 Managing digital identity
Area 3 – Digital content creation
3.1 Developing digital content
3.2 Integrating and re-elaborating digital content
3.3 Copyright and licenses
3.4 Programming
Area 4 – Safety
4.1 Protecting devices
4.2 Protecting personal data and privacy
4.3 Protecting health and well-being
4.4 Protecting the environment
Area 5 – Problem solving
5.1 Solving technical problems
5.2 Identifying needs and technological responses
5.3 Creatively using digital technologies
5.4 Identifying digital competence gaps

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In DigComp, the competence areas 1, 2 and 3 deal with competencies that can be addressed in specific activities and uses. Essentially, they address the appropriation of standard tools and methods to perform digital activities in the respective areas critically and correctly: information, communication and collaboration, and digital content creation.

The digital competence is defined as "knowledge in action", and it needs to be set within an instructional framework. Aligning with this assumption we adopted Robert Mager's view of performance-based learning objectives or learning outcomes, as made of three components:[4]

- performance is an observable behaviour that identifies specifically what the learner should be able to do after the instruction
- conditions under which the learning is to occur
- the criterion that describes how well the learner must perform in order to be acceptable.

Competence areas 4 and 5 are "transversal", as they concern safety issues and problem-solving strategies to apply to any type of activity carried out through digital means. They are present across digital competence domains, but two specific areas were defined to highlight the importance of these aspects for the appropriation of technology and safe digital practices.

The DigComp framework also identifies 4 overall and 8 granular proficiency levels of each competence, which reflect the interaction of three dimensions: the complexity of tasks, the autonomy in performing them and the key cognitive domain (according to Bloom's taxonomy) activated and prevailing at each level (see Figure 1).

Figure 1 - Main keywords that feature the proficiency levels[5]

4 OVERALL LEVELS	Foundation		Intermediate		Advanced		Highly specialised	
8 GRANULAR LEVELS	1	2	3	4	5	6	7	8
COMPLEXITY OF TASKS	Simple task	Simple task	Well-defined and routine tasks, and straightforward problems	Tasks, and well-defined and non-routine problems	Different tasks and problems	Most appropriate tasks	Resolve complex problems with limited solutions	Resolve complex problems with many interacting factors
AUTONOMY	With guidance	Autonomy and with guidance when needed	On my own	Independent and according to my needs	Guiding others	Able to adapt to others in a complex context	Integrate to contribute to the professional practice and to guide others	Propose new ideas and processes to the field
COGNITIVE DOMAIN	Remembering	Remembering	Understanding	Understanding	Applying	Evaluating	Creating	Creating

Following the approach summarized in the above figure, DigComp 2.1 describes 168 competencies by proficiency levels (21x8) in the framework and a pair of examples of use, referring to the work and learning domains, for each of the 21 competencies at one of the 8 proficiency levels.[6]

[4] Mager, Robert F. (1997). Preparing instructional objectives, a critical tool in the development of effective instruction (3rd ed.). Atlanta, Ga.: Center for Effective Performance. ISBN 1879618036

[5] DigComp into Action. A user guide to the European Digital Competence Framework

[6] Only in one case, for explanatory purposes, DigComp 2.1 provides application examples for all 8 levels of competence 1.1 Browsing, searching and filtering data, information and digital content.

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1.1.2 Entrepreneurship Competence Framework (EntreComp)

The EntreComp framework proposes a shared definition of entrepreneurship as a competence to raise consensus among all stakeholders and to establish a bridge between the worlds of education and work. Developed through a mixed-methods approach, the EntreComp framework is set to become a reference de facto for any initiative aiming to foster the entrepreneurial capacity of European citizens. It consists of 3 interrelated and interconnected competence areas: 'Ideas and opportunities', 'Resources' and 'Into action'. Each of the areas comprises 5 competencies, which, together, constitute the building blocks of entrepreneurship as a competence. The framework develops the 15 competencies and an 8-level progression model and proposes a comprehensive list of 442 learning outcomes. Thus, the framework can be used as a basis for developing curricula and learning activities fostering entrepreneurship as a competence. Also, it can be used for the definition of parameters to assess learners' and citizens' entrepreneurial competencies.
Entrepreneurship as a competence is developed through action by individuals or collective entities to create value for others. The progression in entrepreneurial learning is made up of two aspects:

1. Developing increasing autonomy and responsibility in acting upon ideas and opportunities to create value;
2. Developing the capacity to generate value from predictable and straight forward contexts up to complex, constantly changing environments.

The EntreComp Progression Model (see Figure 2) references the proficiency development starting from value creation achieved through external support up to transformative value creation. It consists of four primary levels: Foundation, Intermediate, Advanced and Expert. Each level is, in turn, split into two sub-levels, as illustrated in Table 2. At the Foundation level, entrepreneurial value is created with external support. At the Intermediate level, entrepreneurial value is created with increasing autonomy. At the Advanced level, the responsibility to transform ideas into action is developed. At Expert level, the value created has a considerable impact on its reference domain.

Figure 2 - EntreComp Progression model[7]

Foundation		**Intermediate**		**Advanced**		**Expert**	
Relying on support[6] from others		**Building independence**		**Taking responsibility**		**Driving transformation, innovation and growth**	
Under direct supervision.	With reduced support from others, some autonomy and together with my peers.	On my own and together with my peers.	Taking and sharing some responsibilities.	With some guidance and together with others.	Taking responsibility for making decisions and working with others.	Taking responsibility for contributing to complex developments in a specific field.	Contributing substantially to the development of a specific field.
Discover	Explore	Experiment	Dare	Improve	Reinforce	Expand	Transform
Level 1 focuses mainly on discovering your qualities, potential, interests and wishes. It also focuses on recognising different types of problems and needs that can be solved creatively, and on developing individual skills and attitudes.	Level 2 focuses on exploring different approaches to problems, concentrating on diversity and developing social skills and attitudes.	Level 3 focuses on critical thinking and on experimenting with creating value, for instance through practical entrepreneurial experiences.	Level 4 focuses on turning ideas into action in 'real life' and on taking responsibility for this.	Level 5 focuses on improving your skills for turning ideas into action, taking increasing responsibility for creating value, and developing knowledge about entrepreneurship.	Level 6 focuses on working with others, using the knowledge you have to generate value, dealing with increasingly complex challenges.	Level 7 focuses on the competences needed to deal with complex challenges, handling a constantly changing environment where the degree of uncertainty is high.	Level 8 focuses on emerging challenges by developing new knowledge, through research and development and innovation capabilities to achieve excellence and transform the ways things are done.

[7] https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/entrecomp-entrepreneurship-competence-framework

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The pilot training modules included in BIBLIO VET Curricula for entrepreneurial and transversal skills are mapped into the EntreComp framework (levels 5 - 6). These proficiency levels provide a way for the user to look at the learning outcomes. For instance, the first learning outcome of the 5th proficiency level is: "*A person can describe different analytical approaches to identify entrepreneurial opportunities*". The first learning outcome of the 6th proficiency level is: "*A person can use my knowledge and understanding of the context to make opportunities to create value*".

Entrepreneurial value creation and entrepreneurial learning can take place in any sphere of life. Therefore, the EntreComp Progression Model does not refer to any specific setting, especially not to formal education settings. By focusing on the development of competencies through the actual creation of entrepreneurial value, the progression model breaks down the boundaries between education, work and civic engagement. Facing this, the EntreComp Progression Model is transversal to formal, non-formal and informal learning contexts.

1.1.3 European e-Competence Framework for ICT professionals (e-CF)

The European Norm (EN) 16234-1:2019 European e-Competence Framework (e-CF)[8] provides a reference of 41 competencies as required and applied at the Information and Communication Technology (ICT) professional work environment, using a common language for competencies, skills and proficiency levels that can be understood across Europe. BIBLIO job role profiles are also described in competencies, following e-CF standards; for each competence, associated skills and knowledge items are described.

This standard is structured across four dimensions, which reflect business and human resource planning areas, and incorporate job and work proficiency guidelines specified as follows. In addition, this standard adds a transversal component that provides basic generic ICT descriptors for the successful application of e-CF competencies in a workplace context.

Dimension 1: Five e-Competence areas

Five e-Competence areas were derived from the ICT main business processes PLAN — BUILD — RUN — ENABLE — MANAGE in order to identify sets of e-Competencies. Assigning an e-Competence to a specific process, such as PLAN or MANAGE, is not an exact science and is open to interpretation influenced by context and judgement. In this standard, the primary function of Dimension 1 is to serve as a navigation and entry point to the e-Competencies articulated in Dimensions 2, 3 and 4.

Dimension 2: e-Competencies

This dimension encompasses a set of reference e-Competencies for each e-Competence area. Each e-competence is specified by a title and a generic description of the competence. A total of 41 e- competencies have been identified; they provide the generic reference definitions of this standard.

The e-Competences defined within the standard are not exhaustive; nonetheless, they provide a basic, clear, and sound orientation for individuals and organisations making decisions about recruitment, career paths, training, assessment, etc., and understand an organisation's ICT Professional competence needs. The

[8] E-competence Framework (e-CF) – A common European Framework for ICT Professionals in all sectors – Part 1: Framework, LVS EN 16234-1:2020.

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comprehensive descriptions articulated in Dimension 2 provide primary e- competence reference points for the application of the framework.

Dimension 3: Five work proficiency levels

In Dimension 3, specific proficiency levels are assigned for each e-Competence described in Dimension 2. The level specifications of this standard encompass e-Competence levels e-1 to e-5. These levels define proficiency criteria and describe the degree of mastery required by an ICT professional to meet different levels of performance in each competence. The levels are characterized by a combination of influence within a community, context complexity, autonomy, and typical behaviour expressed by examples of action verbs. See figure 3, providing the level Parameters of this standard.

Figure 3 - e-Competence levels 1 to 5

Levels	e-CF Level descriptor	Influence	Complexity	Autonomy	Behaviour
e-5	Overall accountability and responsibility; recognised inside and outside the organisation for innovative solutions and for shaping the future using outstanding leading edge thinking and knowledge.	Determines strategy	Unpredictable – unstructured	Demonstrates substantial leadership and independence in contexts which are novel requiring the solving of issues that involve many interacting factors.	Conceiving, transforming, innovating, finding creative solutions by application of a wide range of technical and/or management principles.
e-4	Extensive scope of responsibilities deploying specialised integration capability in complex environments; full responsibility for strategic development of staff working in unfamiliar and unpredictable situations.	Provides executive leadership		Demonstrates leadership and innovation in unfamiliar, complex and unpredictable environments. Addresses issues involving many interacting factors.	
e-3	Respected for innovative methods and use of initiative in specific technical or business areas; providing leadership and taking responsibility for team performances and development in unpredictable environments.	Consults	Structured – unpredictable	Works independently to resolve interactive problems and addresses complex issues. Has a positive effect on team performance.	Planning, making decisions, supervising, building teams, forming people, reviewing performances, finding creative solutions by application of specific technical or business knowledge / skills.
e-2	Operates with capability and independence in specified boundaries and may supervise others in this environment; conceptual and abstract model building using creative thinking; uses theoretical knowledge and practical skills to solve complex problems within a predictable and sometimes unpredictable context.	Applies and adapts	Structured – predictable	Works under general guidance in an environment where unpredictable change occurs. Independently resolves interactive issues which arise from project activities.	Designing, managing, surveying, monitoring, evaluating, improving, finding non standard solutions. Scheduling, organising, integrating, finding standard solutions, interacting, communicating, working in team.
e-1	Able to apply knowledge and skills to solve straight forward problems; responsible for own actions; operating in a stable environment.	Implements instructions		Demonstrates limited independence where contexts are generally stable with few variable factors.	Applying, adapting, developing, deploying, maintaining, repairing, finding basic-simple solutions.

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These work proficiency levels have a sector- specific, consistent and rational relationship to the European Qualification Framework (EQF) learning levels 3 — 8. However, the relationship between both frameworks is not one of equivalence but rather is meant to indicate a reference relationship adding depth and context to e-CF levels and providing a consistent bridge and shared language between ICT Professional competence demand and ICT qualification supply. An overview of this relationship is provided and explained in detail in figure 4.

Figure 4 - EQF and e-Competence levels relationships

e-Competence level	*related to* EQF level
e-5	8
e-4	7
e-3	6
e-2	4 and 5
e-1	3

Dimension 4: Knowledge and skills

Examples of knowledge and skills relate to the e-Competencies in Dimension 2. These examples are provided to add value to the competence descriptor and are not intended to be exhaustive. However, they offer inspiration and orientation for the identification of further context-specific knowledge and skills assignments.

Transversal Aspects

This standard incorporates an additional concept by introducing transversal aspects that apply across the entire framework. Transversal aspects recognise the relevance of many cross-cutting aspects that are important in the ICT workplace. They are complementary to competence descriptions and provide additional descriptors that vary in their relevance to each competence ranging from the need for awareness to proactive engagement. The transversal aspects identified as relevant are:

- T1 Accessibility,
- T2 Ethics,
- T3 ICT legal issues,
- T4 Privacy,
- T5 Security,
- T6 Sustainability,
- T7 Usability.

T1 — T7 transversal aspects are relevant to each of the 41 competencies within this standard (see Figure 5). They can be employed at the framework users' discretion by applying emphasis dependent upon granularity requirements. Each may be prioritised to highlight the most important aspects for the application and each offer the possibility for users to enhance the detail of the descriptor. Alternatively, transversal aspects may be applied with equal importance and with no description enhancements.

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Figure 5 – Overview of e-Competencies identified by this standard

Dimension 1: 5 e-CF areas (A – E)	Dimension 2: 41 e-Competences identified	Dimension 3: e-Competence proficiency levels e-1 to e-5				
		e-1	e-2	e-3	e-4	e-5
A. PLAN						
	A.1. Information Systems and Business Strategy Alignment				■	■
	A.2. Service Level Management			■	■	
	A.3. Business Plan Development			■	■	■
	A.4. Product/ Service Planning		■	■	■	
	A.5. Architecture Design			■	■	■
	A.6. Application Design	■	■	■		
	A.7. Technology Trend Monitoring			■	■	■
	A.8. Sustainability Management			■	■	
	A.9. Innovating				■	■
	A.10 User Experience		■	■	■	
B. BUILD						
	B.1. Application Development	■	■	■		
	B.2. Component Integration		■	■	■	
	B.3. Testing	■	■	■	■	
	B.4. Solution Deployment	■	■	■		
	B.5. Documentation Production	■	■	■		
	B.6. ICT Systems Engineering			■	■	
C. RUN						
	C.1. User Support	■	■	■		
	C.2. Change Support		■	■		
	C.3. Service Delivery	■	■	■		
	C.4. Problem Management		■	■	■	
	C.5. Systems Management	■	■	■		
D. ENABLE						
	D.1.Information Security Strategy Development				■	■
	D.2. ICT Quality Strategy Development				■	■
	D.3. Education and Training Provision		■	■		
	D.4. Purchasing		■	■	■	
	D.5. Sales Development		■	■	■	
	D.6. Digital Marketing		■	■	■	
	D.7. Data Science and Analytics		■	■	■	■
	D.8. Contract Management		■	■	■	
	D.9. Personnel Development		■	■	■	
	D.10. Information and Knowledge Management			■	■	■
	D.11. Needs Identification			■	■	■
E. MANAGE						
	E.1. Forecast Development			■	■	
	E.2. Project and Portfolio Management		■	■	■	■
	E.3. Risk Management		■	■	■	
	E.4. Relationship Management			■	■	
	E.5. Process Improvement			■	■	
	E.6. ICT Quality Management		■	■	■	
	E.7. Business Change Management			■	■	■
	E.8. Information Security Management		■	■	■	
	E.9. Information Systems Governance				■	■

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European e-Competence Framework (e-CF) supports the definition of jobs, training courses, qualifications, career paths, formal and non-formal learning paths, certifications. In this way, local, national, European and global ICT supply and demand companies and qualification and certification providers have access to a shared reference.

1.2 European qualification instruments

The project has applied ECVET to facilitate recognition of learning and mobility, quality assurance in the VET curriculum using EQAVET, contribution to a European standard for learning outcomes and ESCO, adoption of e-CF, and mapping VET curricula to EQF and NQFs of the participating countries.

1.2.1 European Qualification Framework levels (EQF)

The European Qualifications Framework (EQF) is a common European reference framework aimed at making qualifications more readable and understandable across different countries and systems. Covering qualifications at all levels and in all sub-systems of education and training, the EQF provides a comprehensive overview over qualifications in the 39 European countries currently involved in its implementation.[9]

The core of the EQF is its eight reference levels defined in terms of learning outcomes, i.e. knowledge, skills and autonomy-responsibility (see Figure 6). Learning outcomes express what individuals know, understand, and can do at the end of a learning process. Countries develop national qualifications frameworks (NQFs) to implement the EQF. The learning outcomes are defined in terms of:

- **Knowledge:** in the context of EQF, knowledge is described as theoretical and/or factual.
- **Skills:** In the context of EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) and practical (involving manual dexterity and the use of methods, materials, tools and instruments).
- **Responsibility and autonomy:** In the context of the EQF, responsibility and autonomy are described as the learner's ability to apply knowledge and skills autonomously and with responsibility.[10]

Figure 6 – European Qualifications Framework level descriptors.

Level 4 - learning outcomes

Knowledge	Skills	Responsibility and autonomy
Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities

[9] https://www.cedefop.europa.eu/en/events-and-projects/projects/european-qualifications-framework-eqf
[10] https://europa.eu/europass/en/description-eight-eqf-levels

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Level 5 - learning outcomes

Knowledge	Skills	Responsibility and autonomy
Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others

The VET curricula developed within the BIBLIO project addresses EQF 5, and will be aligned with the national EQF requirements for librarians in each partner country.

At the European level, the knowledge to be achieved at Level 5 shall be comprehensive, specialised, factual and theoretical within a field of work or study. This level also includes a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems. In addition, such profiles will be able to exercise management and supervision in work or study activities where there is unpredictable change; review and develop the performance of self and others.

1.2.2 European Credit System for Vocational Education and Training (ECVET)

The European Credit System for Vocational Education and Training (ECVET) is based on the 2009 ECVET Recommendation[11] and is a technical framework to facilitate the transfer, recognition and (where appropriate) accumulation of individuals' learning outcomes to achieve a qualification.
In essence, ECVET has two broad objectives:

- To help transfer and recognise learning that has taken place during a stay abroad (geographical mobility);
- To support lifelong learning, by allowing people to transfer and accumulate learning outcomes achieved in different contexts and places to build up to, update or upgrade recognised qualifications.

In European higher education, the concept of credit transfer was introduced in the 1980s European Credit Transfer System (ECTS). While ECVET is based on different concepts to ECTS, the ECVET Recommendation sets out a specific intention to "*facilitate the compatibility, comparability and complementarity of credit systems used in VET and the European Credit Transfer and Accumulation System ('ECTS')*". The 2004 Maastricht Communique had referred to "*the development and implementation of a European credit transfer system for vocational education and training (ECVET) in order to allow learners to build upon the achievements resulting from their learning pathways when moving between vocational training systems. ECVET will be based on competencies and learning outcomes, taking account of their definition at national or sectoral levels. It will take into account the experience of the ECTS in the field of higher education and the Europass framework.*"[12]

[11] European Parliament; Council of the European Union (2009). Recommendation of the European Parliament and the Council of 18 June 2009 on the establishment of a European credit system for vocational education and training (ECVET). Official Journal of the European Union, C 155, 8.7.2009.
[12] Maastricht Communiqué on the future priorities of enhanced European cooperation in vocational training and education, 14 December 2004. http://www.cedefop.europa.eu/files/communique_maastricht_priorities_vet.pdf

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As with other European instruments developed in this context (e.g. EQF, EQAVET), the introduction of ECVET is based on voluntary decisions by the Member States and mutual exchange, monitoring and peer learning processes. [13]

1.2.3 European Quality Assurance in Vocational Education and Training (EQAVET)

The recommendation on the European Quality Assurance Reference Framework for VET (EQAVET) was adopted in 2009 to contribute to quality improvement in VET, and to increased transparency of, and consistency in, VET policy developments between Member States, thereby promoting mutual trust, mobility of workers and learners, and lifelong learning[14]. It was developed to recognise that the shift to a knowledge-based economy, and the rapid evolution of jobs following technological advances required an adaptive and high-quality VET system.

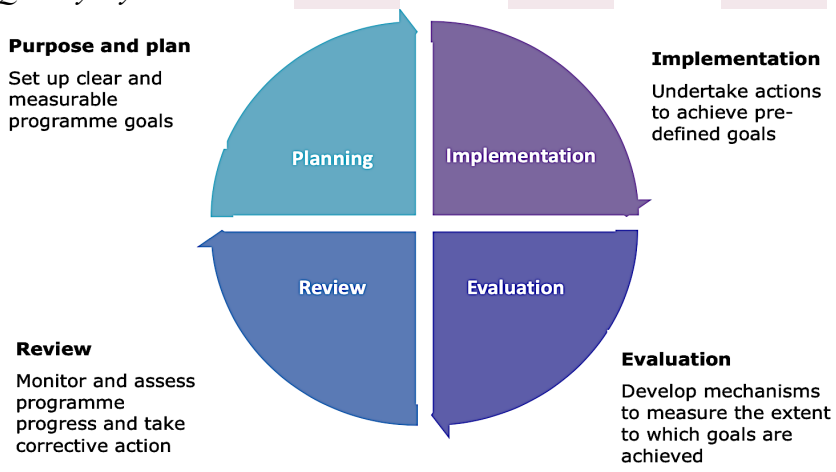
To do this, the framework contains a set of descriptors and indicators which countries can use as a toolbox to improve their Quality Assurance (QA) arrangements. Notably, the recommendation does not propose a particular QA system that countries should use. Instead, it sets out common principles - criteria, indicators and descriptors - that allow VET providers and national authorities to review their strengths and identify areas of improvement. Consequently, it is expected to build on rather than prescribe national QA systems.

The EQAVET recommendation contains two technical elements:

- The use of the quality cycle to underpin a self-assessment process among providers and make improvements of QA arrangements at the VET system level;
- A set of indicators and descriptors that can be used as a VET-system and provider level to monitor the effectiveness of provision.

The quality cycle should form the basis of provider- and system-level monitoring and evaluation of VET provision. As shown in Figure 7 below, it has four stages and is based on standard performance management cycles such as Plan, Do, Check, Act.

Figure 7 – EQAVET Quality Cycle



[13] https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8176&furtherPubs=yes

[14] Council Recommendation on the European Quality Assurance Reference Framework for VET, 2009

It describes the need to set goals and metrics for evidencing achievement, collecting evidence to measure how these metrics are achieved, and then reviewing this information to identify any actions that could improve performance. Consequently this feeds back into the programme purpose and planning, and the cycle continues.[15]

The EQAVET Framework can be used by VET providers and in VET systems to support:

- learning environments (e.g. school-based provision, work-based learning, apprenticeships, formal, informal and non-formal provision)
- all types of learning (e.g. digital, face-to-face and blended)
- public and private sector VET providers
- VET awards and qualifications at all levels of the EQF.[16]

At the BIBLIO project training delivery level, EQAVET procedures and descriptors are considered for the design of each WP's methodological or implementation framework to ensure that the project's results are of high quality and relevant to the project target groups.

EQAVET quality assurance cycle affects all the steps for the joint development and delivery of the BIBLIO project training activity, namely:

- Planning: agreement upon explicit goals/objects and target group among all stakeholders, clear information and localization/customization of the training based on needs analysis
- Implementation: training of staff involved in delivery both on hard and soft skills, continuous monitoring and open feedback system to ensure the achievement of LOs
- Evaluation: all evaluation dimensions covered direct target groups (learners, VET providers and employers) and external relevant actors (e.g. libraries' staff and users) with a particular focus on WBL.
- Review: evaluation results are validated by relevant stakeholders and contextualized both in the revision of the training content, methodology and assessment measures.

[15] https://ec.europa.eu/social/main.jsp?catId=738&langId=en&pubId=8176&furtherPubs=yes
[16] https://ec.europa.eu/social/main.jsp?catId=1536&langId=en

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2 Emerging job role profiles and modular VET Curricula

The project started by analysing the training needs and offers in the library sector in order to identify a set of emerging job role profiles. The professional needs in the library sector were investigated and categorized as follows:

- Analysis of the training needs of professional figures in the library sector according to the digital transformation, targeted through coaching circles addressed to library professionals and representatives.
- Compare the results of the previous analysis with the current situation by submitting questionnaires to libraries within the 5 partner countries.

Project partners have mainly focused on public libraries as these were more relevant to the partners; however, if insights could be gathered from other types of libraries, these were included in the results of this report.

The work package carried out four different activities: desk research, a training needs survey, in-depth interviews with library professionals, and best practice interviews with VET providers. Each section of the report examines the national results and draws up a comparative analysis. Finally, two emerging job profiles are suggested at the end of the report based on the research results to inform the VET curricula development and the specialised training: **Community Engagement and Communication Officer (CECO)** and **Digital Transformation Facilitator (DIGY).**

2.1 Job role profiles

The Community Engagement and Communication Officer (CECO) is a flexible, proactive, and digitally aware worker.

- They use local and national data and information from community engagement to assess community needs and set priorities for outreach services.
- They work with communities and engage people outside the library walls through various channels, including neighbourhood meetings, community-based organisations and groups, networking, social media and other communication methods.

The Digital Transformation Facilitator (DIGY) is a flexible and proactive worker who can support the library team in the transition to the digital era.

- They will provide technical support to their colleagues and the library's activities as it adopts new digital tools.
- They are able to use online collaboration tools and platforms, design and/or select content and services for different purposes.
- They also support the cataloguing, archiving and digitisation of books and documents, and the curation of digital resources and collections.

Library professionals indicated a need for communication skills, community engagement, and digital skills for work throughout the research activities. The emerging job profiles detailed in this report collated the information from the research to create two profiles that respond to the essential skills needs and training needs identified in the research namely responding to the communication and the community facilitation

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training needs for the former and the digitisation and technical support needed for the latter. They aim to boost digital skills in all library professionals to at least an "intermediate" level across all DigComp 2.1 areas. Enhancing digital, entrepreneurial and transversal skills that library professionals have will help the sector transition into the digital era and understand how to respond to new developments as technology continues to develop.

2.2 VET Curricula

Competence-based modular VET curriculum for the job role profiles (see Table 2) is synthesized from the set of competencies produced in the work package "Analysis of the skills needed on the labour market in the library sector" to meet the needs of the job role profile. The modular approach makes it easier to adapt curricula and synthesize new curricula to meet emerging professional needs at different levels.

Table 2 – Job role profile modules

	No.	Modules/profiles	Profile 1: Community engagement and communication officer	Profile 2: Digital transformation facilitator
	Digital competencies			
Information, data, and media literacy	1	Introduction to digitization	X	X
	2	Browsing, valuing, searching, and filtering trusted data, information, and digital content	X	
	3	Identifying and evaluating fake data, information, and digital content	X	
	4	Managing data, information, and digital content	X	X
Communication and collaboration	5	Interacting through digital technologies (online meetings)	X	X
	6	Collaboration and sharing through digital technologies	X	X
	7	Digital citizenship	X	
	8	Netiquette	X	
	9	Managing digital identity	X	X
Digital content creation	10	Digital tools and digital content development	X	X
	11	Copyright legislation	X	X
	12	Programming		X
Safety	13	Basic principles of data safety and security	X	X
	14	Protecting devices		X

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	15	Protecting data and content	X	X
	16	Protecting personal data and privacy	X	X
Problem solving	17	User support (Identifying needs and responses)	X	X
	18	Problem/ crisis management	X	X
	19	IT skills and troubleshooting		X
	20	Competency management	X	X
	Entrepreneurial and transversal competencies			
Ideas and opportunities	21	Spotting opportunities	X	X
	22	Valuing ideas	X	X
	23	Development of sustainable digital services	X	
	24	Design thinking	X	X
Resources	25	Motivation & perseverance (mobilizing others)	X	
	26	Mobilizing resources	X	X
	27	Marketing and promotion	X	
	28	Advocacy	X	
	29	Sales development	X	X
	30	Fundraising and Crowdsourcing	X	
Put into action	31	Project management	X	X
	32	Strategic thinking (Business plan development)	X	X
	33	Relationship management	X	
	34	Change management (Change support)	X	X
	35	Time management	X	X
	36	Taking the initiative	X	X
	37	Learning through experience	X	X
	38	Risk management	X	X

The recognition of new curricula and qualifications plays a central role in the BIBLIO project. This has been achieved through the adoption of European standards and transparency and recognition principles.

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2.3 Module descriptions provided for CECO and DIGI profiles

2.3.1 CECO profile

This job profile **focuses on the communication skills needs and the community facilitation needs** identified throughout the research. Consequently, there will be a high level of contact with library users and local stakeholders to create a network for the library to use in community facilitation activities. The main objective for this profile is to **focus on developing services and activities based on their community's needs, including segments of the community that are not library users yet,** and thus build a network of local stakeholders they can involve in different activities and services to support their community. As part of this, they communicate with their target groups through online and offline means.

The digital skills needed for this profile converge around communication tasks and researching community needs. This profile needs to understand different online and offline communication techniques, information, data, and media literacy to avoid the spread of disinformation and graphic design skills to produce content to use in communication campaigns.

There are many transversal competencies this profile has and must develop. As this profile focuses on service development, the ability to **listen actively and develop creative solutions** to community's needs is crucial. They must also be able to leverage local community stakeholders to be involved in their community facilitation activities, which require strong networking skills. Furthermore, as they will frequently contact their community, they **must have strong interpersonal skills** and need pedagogical solid, coaching, and mentoring skills to support their community. There are 35 modules in the CECO profile – 17 digital and 18 transversal (see Table 3).

Table 3 – Competency development modules included in CECO profile.

Modules	
Digital competencies	**Entrepreneurial and transversal competencies**
1. Introduction to digitization 2. Browsing, valuing, searching, and filtering trusted data, information, and digital content 3. Identifying and evaluating fake data, information, and digital content 4. Managing data, information, and digital content 5. Interacting through digital technologies (online meetings) 6. Collaboration and sharing through digital technologies 7. Digital citizenship 8. Netiquette 9. Managing digital identity 10. Digital tools and digital content development	1. Spotting opportunities 2. Valuing ideas 3. Development of sustainable digital services 4. Design thinking 5. Motivation & perseverance (mobilizing others) 6. Mobilizing resources 7. Marketing and promotion 8. Advocacy 9. Sales development 10. Fundraising and Crowdsourcing 11. Project management 12. Strategic thinking (Business plan development)

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11. Copyright legislation 12. Basic principles of data safety and security 13. Protecting data and content 14. Protecting personal data and privacy 15. User support (Identifying needs and responses) 16. Problem/ crisis management 17. Competency management	13. Relationship management 14. Change management (Change support) 15. Time management 16. Taking the initiative 17. Learning through experience 18. Risk management

2.3.2 DIGY profile

This profile was developed as a technical profile that would provide digital support in different types of libraries. Specifically, **this profile will help the library and its colleagues transition into the digital era.** They will focus on supporting the implementation of new digital processes in the library, whether regarding library systems, digital work tools for the staff, research and training, or digitisation. Thus, the DigComp 2.1 headings are used in this profile. There is a higher expectation in terms of the level of proficiency.

As this is a facilitator profile, the transversal skills focus on **being able to teach colleagues to use new digital technology,** which requires strong interpersonal skills and pedagogical, coaching, and mentoring skills. Furthermore, as they work on digitising collections in their library, they will need the digital skills to achieve this and the communication skills to explain how to access and use these resources to both colleagues and library users. Finally, a digital transformation facilitator **must stay informed on the developments in their sector and devise ways for them to be integrated successfully into their library** where possible. For this profile, this would be the cultural sector, and there would need to be constant monitoring of how this sector evolves, including developments in the digital cultural heritage sector and how this applies to the library sector. There are 28 modules in the DIGY profile – 16 digital and 12 transversal (see Table 4).

Table 4 – Competency development modules included in DIGY profile

Modules	
Digital competencies 1. Introduction to digitization 2. Managing data, information, and digital content 3. Interacting through digital technologies (online meetings) 4. Collaboration and sharing through digital technologies 5. Managing digital identity 6. Digital tools and digital content development 7. Copyright legislation 8. Programming 9. Basic principles of data safety and security 10. Protecting data and content	**Entrepreneurial and transversal competencies** 1. Spotting opportunities 2. Valuing ideas 3. Design thinking 4. Mobilizing resources 5. Sales development 6. Project management 7. Strategic thinking (Business plan development) 8. Change management (Change support) 9. Time management 10. Taking the initiative

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11. Protecting devices 12. Protecting personal data and privacy 13. User support (Identifying needs and responses) 14. Problem/ crisis management 15. IT skills and troubleshooting 16. Competency management	11. Learning through experience 12. Risk management

VET curriculum covers basic technical skills and addresses modern (digital and soft) skills that librarians increasingly need but are not covered by traditional training. Role profiles are not job profiles; a team member in an organization can have different roles, even if the team member holds a different job title. Training methodological approach is based on learning outcomes and principles of adult education for realizing modular, high-quality VET curricula in the library sector, new approaches to education and competence development that capitalize on the full potential of various learning settings.

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3 Training methods and tools

3.1 Training methodological approach

The BIBLIO training offer integrates formal, informal and non-formal learning approaches. In the field of adult education there is no preferred option: depending on the target group and the context in which the training takes place, it may be useful to focus more on different types of learning. Therefore, on a case by case basis, the training activity may be characterized by a fully non-formal approach, by a variable combination of formal and informal, non-formal parts, or it may be characterized by a fully formal approach.

Formal learning

This occurs in traditional education systems of organized learning which are syllabus specific, hierarchically structured, periodic, and chronologically graded' (from the first grade to higher education). Through these systems, a society's formal education and socialization requirements are provided and academic education and vocational, technical, and professional training delivered.

Informal learning

Informal learning is a broad term that includes any such learning; incidental learning is a subset that is defined as a by-product of some other activity. Informal learning can be planned or unplanned, but it usually involves some degree of conscious awareness that learning is taking place.

Non-formal learning

It corresponds to organized learning initiatives outside formal education systems and what we call "formal learning environments", yet it still has some organizational framework through identifiable learners and clear learning objectives.

It arises from the learner's conscious decision to pursue or master a particular activity, skill, or area of knowledge and is thus the result of intentional effort. In that sense, some non-formal learning setups can lead to becoming increasingly formal as learners become more proficient.[17]

3.2 Training materials development

The primary training strategy of the project is based on Open Educational Resources (OERs). All the training materials and tools are realized in digital form and are available online.

The partners have agreed on learning materials to be developed for each type of training learning:

1) Training materials for MOOC for all modules include:

- Short introductory animation video
- Description of the learning outcomes and content of the Module
- OER's
- Online assessment tests
- Recorded webinars

[17] https://coletividad.org/formal-non-formal-informal-and-incidental-education/

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2) Training materials for specialization course for all modules include:

- A detailed description of the learning outcomes and content of the module
- PPT of main module content
- Assessment tests and exercises
- Project agenda and task description (project-based learning)
- Scenarios for implementing different learning tasks (work-based learning)
- OERs
- Best practice videos (national versions)
- Workshop agendas

All types of training/learning include assessment (with templates) of the trainees. Methodologically, the assessment is based on the learning outcomes approach, taking into account the units of learning outcomes per learning module.

3.3 Combination of different training/learning types

3.3.1 Massive Open Online Course

The first MOOC on digital skills (open, informal learning) designed for library professionals, is part of the modular training programme to develop the competencies included in the CECO and DIGY job profiles. It is a modern course that enables learners to develop digital, entrepreneurial and transversal skills that are fundamental for library professionals in the new era.

The MOOC implements videos, presentations and reading material and enhances tutor-learner collaboration and peer learning through forums and chats. It addresses the following thematic categories:

- Information, data and media literacy
- Communication and collaboration
- Digital content creation
- Safety
- Problem-solving
- Ideas and opportunities
- Resources
- Put into action

The BIBLIO MOOC consists of twenty-six (26) modules dealing with topics such as Managing data, information and digital content; Basic principles of data safety and security; Digital citizenship; Spotting opportunities; Mobilizing resources, etc. Theoretical training is designed for individual training and self-learning. Based on the curricula, the length of a module varies from 1h to 2h of self-studies. The duration of the course is 8 weeks. Participants should commit to about 8-10 hours of study per week and have at least an intermediate level of English, as all the online lessons and materials will be in English. Experience in the library sector is a plus but not mandatory. The participation in the BIBLIO MOOC is free of charge to anyone who is interested in joining the course.

Unlike a traditional “course”, a MOOC is delivered on-line. The lectures are videos and reading materials, which are available 24/7. Each week participants are able to interact with highly experienced experts in 1-

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hour live webinars and have the opportunity to watch them afterwards. Each week, up to three lessons will be released. Each lesson contains the video materials to watch, homework to work on, and a quiz to assess the knowledge of the participants. Everyone who successfully complete the MOOC with a 75% success rate of the online assessment will be awarded a certificate of completion.

Watch the introductory BIBLIO MOOC trailer and obtain a concrete idea about it.

The MOOC is being developed by the DAISSy Research Group of Hellenic Open University (HOU). The Group, which has longtime experience in MOOC development, worked hard along with all BIBLIO partners to deliver a modern MOOC that efficiently serves the professional development needs of library professionals. The MOOC is based on the Learning Management System (LMS) "Moodle", the most known open source LMS (compatible also with Android, iOS), which serves a vast community of learners and offers responsive design (mobile friendly, included).

The MOOC is part of the modular training programme, and it will be followed by the BIBLIO specialization course (blended training course and the work-based learning activities).

3.3.2 Specialization course

The Specialization course includes face-to-face training, online classes, self-study, project-based learning and work-based learning. Specialization courses will be delivered in partner country local languages and each of the piloting countries will train minimum of 25 trainees. Training is delivered via an online platform that stimulates sharing and exchange of knowledge, experiences and best practices

- **Blended training course (formal learning) – 240 hours:**
  - Face to Face learning (20 hours)
  - Online Classes and self-study (160 hours)
  - Project-based/collaborative learning (40 hours)
  - Assessment (20 hours)
- **Work-based learning (non-formal learning) – 165 hours:**
  - Practical in real work environment learning (160 hours)
  - Assessment (5 hours)

Blended training will be delivered in local languages. The blended course has been scheduled to start up to two months after MOOC training. Similar to work based learning project based learning is also executed in real life work based environment, to develop projects for trainees work place – for example a digital safety strategy for library, a marketing campaign of advocacy strategy. During the project based learning trainee together with the tutor and mentor from workplace distinguishes the topic for the selected module, the needs of the library and then works on the project development – theoretical basis, planning and development of the project.

WBL will provide trainees with the opportunity to learn technical, academic and employability skills by working in a natural work environment to prepare trainees for their future careers.

A more detailed description can be found in the BIBLIO Training Toolkit.

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3.4 Participation in the training for trainers, employers and trainees

1) Training of trainers: this action will be addressed to selected referents of VET providers in all project countries. The training will be organised as a 2-day seminar with the aim of introducing them to the scope of the overall project and to inform them about the BIBLIO VET Curricula, Methodology and Training Toolkit.

2) Training of employers: it is fundamental to ensure that not only trainees but also employers are fully aware of the project's purpose, ensuring better accepting, hosting and mentoring learners in a work-based environment (employers). The training will be organised as a 1-day seminar, which the participating partners will deliver in each country, focusing on the importance of work-based learning approaches for students and professionals and the benefits to the employer.

3) Training of trainees: before starting their WBL experience, trainees will follow a 1-day training course aimed at providing them with information about the scope, the aims, and the value of work-based learning, providing to the learners recommendations and suggestions on specific issues related to the job (e.g. professional behavior and attitude, dressing, respect of the hierarchy etc.).

Selection of blended course trainees

In this phase, potential interested trainees, i.e., library professionals and people interested in library careers, will be informed to enroll in the training course. Therefore, it is essential to ensure a critical number of interested trainees attain the Specialization Course, aiming to upgrade their skills and knowledge in identified needs.

Two critical selection criteria can be pre-defined:

1. Profession (must be library sector-related professional or in related organisations).
2. Work experience.

Preference is given to learners who have successfully completed the MOOC.

3.5 Requirements for participation in training

Requirements to start the module:

- Basic or intermediate digital competencies.
- Basic entrepreneurial and transversal competencies.
- Skills to work with different sources of information in libraries and the digital environment.
- B2 English language level (MOOC is in English).

Requirements to complete the module:

- MOOC – completed with 75 % of final online test.
- Classroom training – differentiation of the class of teams and collective assessment/self-assessment.
- Online learning – all assessments completed and 75% of all online tests.
- Project-based learning – project submitted and received a positive evaluation from the tutor.
- Completion of Work-based scenario (optional).

As the training course is modular, different modules require different levels of competence. For example, the most technical modules of the DIGY job role profile require in-depth digital skills.

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4 Piloting, learning assessment and competence validation

The project focuses on Piloting a specialization course to ensure that the modularized curriculum is fit-for-purpose, relevant to the identified professional needs, and highly consistent with EQF-ECVET. The learning-outcomes approach has been applied to the creation of job profiles and the design of training modules taking into account the ECVET principles to facilitate recognition of learning and mobility. It is based on Units of Learning Outcomes (LOs) as the set of knowledge, skills and competencies required to develop specific expertise. The planned activities within each training module foster the acquisition of the competencies and further application to specific and real situations in a progressive and preparatory way. EQAVET principles are applied during the whole project.

The training programme will be **tested in 4 pilot countries (Italy, Bulgaria, Latvia and Greece)** and will be aimed at delivering the curricula that will be structured as follows:

MOOC of 8 weeks addressed to 100 library professionals per involved country, for 400 library professionals from all over Europe. At the end of each training module in MOOC, learners can self-assess their progress with the help of an assessment test. It consists of Multiple Choice Questions (minimum 6 questions per module). Participants who successfully complete the MOOC with a 75% success rate of the online assessment will be awarded a certificate of completion. In case of unsuccessful it is possible to repeat the online test: each participant is granted to take the test 3 times.

Specialization courses (blended training course and the WBL) on the different BIBLIO profiles addressed to 25 trainees per piloting country (tot 100).

- Before the **blended training** preliminary assessment will be made to understand the participants' existing knowledge and the need of training for each module. Based on the need, some modules of training might be skipped if there are prior certifications or knowledge.
- **Work based training** is an educational strategy that helps to establish newly gained skills and knowledge in a real life environment - traineeships or job-shadowing sessions. BIBLIO project curriculum includes 160 h work based training and 5h assessment session.

Both the blended training and the WBL include two types of assessment:

- **formative assessment**: tutors will evaluate the assignments in order to make sure that learners have understood the concept, but a negative evaluation won't affect the accomplishment of the course;
- **summative assessment** to tests: learners are supposed to pass all tests providing at least 60% of correct answers in order to get the certificate.

Upon successful completion of the course, participants will receive the certificate of completion, certifying the acquired LOs.

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5 Quality assurance, evaluation and monitoring

In the BIBLIO project, monitoring and evaluation project core activities are essential in assessing the model experimentation, gathering data, and controlling the procedures. To achieve this, the work package "Project management and evaluation" has included the Monitoring and Evaluation Plan (MEP) as a fundamental part of the work plan.

The approach to monitoring is to ensure the implementation of the whole project and the validation of its activities. The strategy of quality assurance is focused on monitoring the progress towards achieved outcomes. Follow up whether activities have been completed according to the plan, the outputs have been delivered and eventual impacts have been ensured.

Both internal and external dimensions have been considered by implementing the plan and that of the peer review activities.

The internal dimension of the MEP project is aimed at identifying any potential weaknesses and includes:

- Transnational partnerships meetings (to be evaluated according to the following elements: *general aspects, logistic and organisation, contents of the meeting*).
- Periodic online questionnaires on the satisfaction levels of the partners on communication, management, achievements, the accomplishment of deadlines and commitment.
- Monitoring, partners' evaluation of deliverables and reporting.

The external dimension of the MEP includes:

- Peer-review of the training methodology and tools.
- Evaluation of the MOOC.
- Integrated assessment of the specialization course.
- External expert evaluation.

The group of identified external experts (10 per country) includes representatives from VET institutions, library operators and professionals and companies active IT technology to the digitalization of culture, as well as experts on the application of qualifications at the European level. In addition to this, an external evaluator supports the project throughout its implementation.

VET Curricula, Methodology and Training Toolkit evaluation

The VET Curricula and digital OERs have already been evaluated and validated, taking into account the following elements:

- adequacy of proposed modules (EQF 5);
- compatibility of learning objectives and outcomes with expected level of competence;
- any lacking elements;
- contents clearness;
- redundancies;
- pertinence to the identified training path.

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The developed methodology and training toolkit will be used in a piloting phase and then evaluated, taking into account the c*ontents provided, the structure, length, style* and *appearance*, and *any possible applicable strengths* and *weaknesses*.

MOOC evaluation

When it comes to the MOOC evaluation, it will be done shortly, taking into consideration the functionality, reliability, usability and efficiency. After all the evaluation activities have been carried out, a solid report will be built and published.

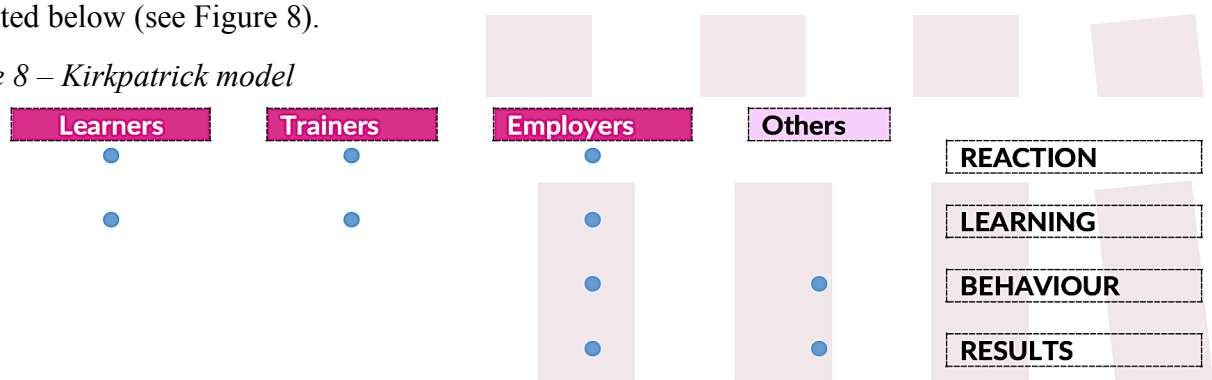
The main tools used for reaching target groups after the end of the project will be:

- the exploitation of the modular VET curricula,
- methodology for realizing VET curricula,
- project's training toolkit and digital OERs,
- MOOC and online platform for blended training.

Specialization course evaluation

Both the blended training and the work-based learning will be evaluated following the Kirkpatrick model presented below (see Figure 8).

Figure 8 – Kirkpatrick model



As it is graphically shown above, different actors will be interested (blue dots) by the activities to evaluate the training programme adequacy. Indeed, all the actors directly involved/interested by the pilot (learners, trainers and employers). In comparison, the last two levels will be evaluated by different types of actors, who are directly (employers) and indirectly (colleagues, clients/users) affected by the impact of the training on the participants. In particular:

- **Evaluation of blended training -** the evaluation of blended training will involve questionnaires and interviews with the trainers and trainees. It will include items such as structure, format, organization, access, feedback, learning motives, adaptation etc.
- **Evaluation of work-based learning** – the evaluation of work-based learning will involve interviews with trainees, their supervisors/tutors, and the libraries' directors where the learning process was realized. Participants will be asked to fill questionnaires before, during and after the work-based learning activities. Additional evaluation activities will be designed to collect feedback from other library staff, regular users, and other external actors.

The successfully completed course will lead to the assessment and recommendations for the validation of the learning outcomes.

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