DISC WP3:

Continuing Professional Development (CPD) Concept and Planning Document

Co-funded by the European Union

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2 Introduction

2.1 Preliminary Remark

The document on hand is a planning instrument for programme planners and educational experts who intend to transfer the DISC approach as CPD for their learners, be it in the own institution or in KA1 courses. This document details the concept to facilitate the application of the DISC approach of Design Based Collaborative Learning, DBCL, in the own organisation and the transfer in other contexts and with other target groups. Hence it explains the innovative concept from an educational perspective, taking on board concepts like European Educational instruments (EQF, ECVET etc.) or educational concepts ("Competence Theory", taxonomies, didactic patterns etc.) which afford a specific educational pre-knowledge.

Insofar the document is an important backing document for the CPD and a planning device for the partners and beyond. It contains:

- Course and module design patterns (Reference systems, didactic frames and sequencing tables, indicators) for the CPD
- Action and learning field patterns and Course planning tables (learning pathways) for the three main CPD modules that can be utilised for the envisaged two scenarios
- Qualification course for certain thematic and competence areas,
- A more modular scenario which aims at a situative learning approach (problem solving – not having the qualification in mind)

2.2 Structure

The DISC programme has been developed based on the ECVET specification, based on the idea that the programme and the teaching/learning modules can be used:

- As a whole (as "CPD-programme" which can be delivered in educational institutions to train their staff members in all programme topics) and
- In modules (which can be delivered individually and, in connection with a respective validation)
- The programme modules can be validated according to ECVET which makes them transferrable also in other CPD context to achieve utmost transferability
- Eventually to make them fit to all kinds of learning technology which is based on LOM (learning object metadata) standards which makes the units portable from one LMS to the other.

The DISC learning modules are built and described according to transferrable competence levels based on the LEVEL5 taxonomy, which has been created to facilitate Competence oriented Learning and Validation (COL&V). They are arranged in three subsequent levels of difficulty and complexity which allows a reasonable integration into the learning processes in different contextualised learning fields.

This way, DISC achieves a highly flexible and modular learning approach in those learning phases, that can be standardised.

2.3 Terminology and Specification

For the avoidance of uncertainties and misunderstandings we include a short explanation on terms and terminology and specifications that we use.

ECVET Specification

The DISC learning approach is based on a couple of specifications that are consciously applied to facilitate utmost transfer and usability.

The quality instrument ECVET (European Credit System for Vocational Education and Training) established in Europe is the basis for such a "common language". The basis for comparability of educational pathways is the concept of learning outcome orientation (outcome orientation independent of learning location, learning duration and learning context).

The ECVET system is a logical, hierarchical structure which has, as smallest common denominator, the learning outcomes, described in knowledge, skills and competences.

A qualification (or a CPD) consists of:

- **Learning Modules** containing
  - **Learning Units** consisting of
    - **Learning objects** that are
      - described by their envisaged **outcomes**
        - clustered along ***knowledge, skills and competences*** *(ECVET/EQF)) or (in variation for rather not-formalised contexts* ***attitudes*** *(LEVEL5) instead of the "competence" column.*

LOM Specification

The second system that we refer to is relating to the question how educational elements should be organised to make them transferrable to blended learning modalities and re-usable in different LMS. To achieve this, we use the basics of the LOM model (Learning Object Metadata). Learning Object Metadata is a data model, usually encoded in XML, used to describe a learning object and similar digital resources used to support learning. The purpose of learning object metadata is to support the reusability of learning objects, to aid discoverability, and to facilitate their interoperability, usually in the context of online learning management systems (LMS).

The IEEE 1484.12.1 – 2002 Standard for Learning Object Metadata is an internationally recognised open standard and describes Learning Objects as smallest units

- **Information** (media/text etc) and
- **Assignments** including
  - **Tasks to take Actions** and
  - **Assessments**

Planning Tool Terminology

Eventually we use the LEVEL5 planning methodology[1] which has been developed over the last decade to:

- To plan, deliver competence-oriented learning,
- To facilitate the assessment and validation of competences on professional quality,
- To apply this methodology also in less formal learning context, e.g. on the job or in social, ecological projects, civic collaboration context and in capacity building projects and eventually
- To enable also non-academic professionals and citizens to develop good quality educational offers

[1] The LEVEL5 System is added to this document

Instruments used in this approach in hierarchical order:

1. **Learning programme (the "whole")**
    a. Didactic pattern: an overview of contents, objectives, participants resources, methods (Didactic Frame)
    b. Action field: describes the context and what a learner has to do in his/her context (here the Facilitators)
    c. Learning field: describes what the DISC facilitators has to know and to be able to (as well as the affective competence dimension) in a defined learning scenario based on the action field (in terms of expected learning outcomes within a LEVEL5 reference system)
2. **List of content related modules**
    a. = clusters of contents to be delivered within the programme
        i. Based on the LOM specification[2] ("learning module" consisting of "learning units" and learning objects (information+assignment) and ordered along the EQF/ECVET and to fit in KSA / KSC Taxonomy)[3]
3. **Learning pathway**:
    a. List of learning modules (titles)
    b. Sequence of connected learning modules within the learning field
    c. If needed clustered in thematic areas

[2] IMS LD Standard to Describe Learning Designs
[3] Impact-eu.net

3 The DISC CPD Concept

3.1 Didactic Framework Pattern

3.1.1 Summary

The DISC programme is a CPD for educational personal which aims at introducing sustainability literacy and culture through education for sustainable development (ESD) in their institutions and in their educational offers. Hence the target groups are at the firstly teacher and staff members and in the end also their learners as final beneficiaries.

The programme has been delivered in blended learning modality.

The main underlying idea is grounded on the results of the stocktaking (desk research and interviews) which suggest that it is not very helpful to "teach sustainability literacy" or to offer courses / learning offers which exclusively aim at the acquisition of theoretical understanding of sustainability.

Instead, following the idea of COL – Competence-Oriented Learning the DISC partnership has chosen an approach which "contextualises" the acquisition of sustainability literacy and competences. Hence the competences are a kind of side-effect from the learning – they are acquired like other "cultural skills and competences" (Belshaw, 2014) without being formal learning objectives.

This means that the applied didactic framework aims rather at a facilitation and a learner centred, constructive and collaborative ("team") approach (DBCL). This approach can be also transferred in online or blended learning modality, however, it needs professionals who are "Facilitators of Design Based Collaborative Learning", who have specific knowledge and skills and openness towards the critical use of online resources.

The programme consists of an optional societal teambuilding event, an obligatory self-learning course delivered via browser-based apps and eventually a design thinking programme in which prototypes for ESD in contextualised HE learning offers will developed.

3.1.2 Action Field

3.1.2.1 Target group

The target groups are at the firstly staff members of educational institutions:

- Professors, lecturers, teachers and trainers
- Programme planners
- Mentors and coaches
- Learning assistants
- Programmers and e-learning designers

As the programme is designed to support the integration of sustainability literacy and culture across higher and adult education, it welcomes professionals from all disciplinary and functional backgrounds—ranging from academic teaching staff to administrators, programme coordinators, and support personnel. Adult education organisations working with university-level learners are equally encouraged to participate.

The final beneficiaries are the learners within higher education institutions and adult learning settings, as well as those engaged in collaborative projects with societal actors, businesses, and public administrations.

Hence, the target group is intentionally diverse in terms of roles, sectors, and professional backgrounds. This diversity is regarded as a strength, particularly during the design thinking phases, where varied perspectives enrich collaboration and stimulate innovative thinking.

3.1.2.2 Topics/Themes (content area)

The DISC- Qualification (CPD) for facilitators consists of 3 topics

- Topic 1. Competence-Oriented Learning and Validation (COL&V) for ESD

  This topic introduces the principles and methods of competence-oriented learning and validation, with a focus on fostering sustainability competences in both formal and non-formal settings. It includes training in the LEVEL5 system and guidance on how to plan, facilitate, and assess learning outcomes in the context of ESD

- Topic 2. Design Thinking and creativity techniques as foundation of Design-Based Collaborative Learning and Design-Based Collaborative Research

  This topic explores the design thinking process as a structured, iterative method for addressing complex sustainability challenges. It includes practical tools and creative techniques for each step of the process, and positions design thinking as a core methodology within DISC's learner-centred, collaborative approaches to teaching and research.

- Topic 3. Open Educational Resources (OER) and Digital Learning Tools for Sustainability

  This theme focuses on the use and creation of Open Educational Resources (OER) to support Education for Sustainable Development (ESD). Participants learn how to access, adapt, and apply OERs in their own teaching and facilitation work, and are introduced to the DISC OER repository on sustainability. The topic also promotes digital competence in using online platforms and tools for blended and collaborative learning.

3.1.2.3 Learning objectives

- **Knowledge:**
  - Theoretical knowledge on
    - Synchronous/Asynchronous online learning
    - Collaborative Tools and platforms
    - Design Thinking methodology
    - Competence oriented Learning and Validation
    - Learning Platforms
- **Skills:**
  - *Ability to…*
    - Develop blended learning offers to bring about skills and competences on sustainability for various target groups in higher education.
    - Design thinking skills: developing visions for demand driven learning projects (in the region), spotting ideas and opportunities, creativity techniques and prototyping.
    - Facilitating Competence Oriented Learning
    - Creation of learning units with open-source platforms
- **Attitudes:**
    - Positive attitude towards the development of ideas in the team.
    - Tolerance of ambiguity as a guiding person in relation to the developments in the teams
    - Positive appreciation of all design thinking phases and iterative processes
    - Positive appreciation of the contributions of all team members
    - Openness, curiosity and motivation to use mixed learning forms

3.1.2.4 Resources

The CPD makes use of a variety of practical and transferable resources that support both online learning and in-person facilitation:

- Online self-learning modules (5 thematic units)

- DISC OER Repository with sustainability-related teaching materials
- Design thinking worksheets and facilitation templates
- LEVEL5 validation tools (e.g. reference system, cube model)
- Sustainability research forms for field activities
- Workshop presentation slides and printed handouts for group tasks
- Planning templates for course or project design

3.1.2.5 Activities

The CPD focuses on context development, helping participants design ESD learning formats tailored to their own teaching environments. Through practical exercises, participants identify sustainability topics relevant to their region or institution, define their target groups, and outline suitable learning objectives and activities. They also explore how to adapt facilitation methods and validation tools to support diverse learners in real-world settings.

3.2 Learning Field

Reference System on Reference System: Facilitating Design based Collaborative Learning and Research for Education of Sustainable Development

	KNOWLEDGE		SKILLS		ATTITUDES	
L	**Level Titles**	**Level description**	**Level Titles**	**Level description**	**Level Titles**	**Level description**
5	Knowing where else (strategic transfer)	Knowing how to transfer design based collaborative learning and research into new and different contexts and situations	Developing, constructing, transferring	Adapting and developing DBCL/DBCR into education offers about sustainable development in an education institution.	Incorporation	Being determined to transfer the own teaching and training to the new approach. Inspiring others to apply concepts of DBCL/DBCR.
4	Knowing when (implicit understanding)	Knowing when and how to interact in design based collaborative learning and research process and to apply certain methods	Discovering, acting independently	Co-Facilitating a DBCL/DBCR project to for sustainable development with appropriate tools in a teamwork on a given case	Commitment	Being determined to explore and improve the own competence regarding the facilitation of DBCL/DBCR for ESD.
3	Knowing how	Knowing the essential concepts on design based collaborative learning and the roles and required competences of a facilitator	Deciding/ selecting	Applying a set of DBCL/DBCR-instruments in education/training settings in relation to sustainable development	Motivation/ appreciation	Being motivated to incorporate ESD elements in existing education offers using the design based collaborative learning and research concept
2	Knowing why (distant understanding)	Understanding why planning and delivering of design based collaborative learning and research has its benefits for implementing sustainable development	Using, Imitating	Exercising and trying out singular DBCL/DBCR tools provided by others	Perspective taking	Being curious and interested about planning and delivering designed collaborative learning and research
1	Knowing what	Knowing that design based collaborative learning and research (DBCL/DBCR) is different from traditional education	Perceiving	Recognising that the education of sustainable development (ESD) requires new training / facilitation approaches	Self-orientation	Perceiving new design based collaborative learning and research without relating it to the own context

3.3 Training structure

Preliminary Phase (Online):
A preparatory phase consisting of one synchronous online session and self-directed learning activities delivered through the DISC Moodle platform. This phase introduces key concepts and sets the foundation for the face-to-face training.

In person workshop/training (5 days):
An intensive, five-day in-person workshop focused on applying design-based collaborative learning (DBCL), facilitation methods, and competence-oriented approaches to Education for Sustainable Development (ESD). Participants engage in hands-on activities, exchange practices, and co-develop modules that support sustainability learning within their institutional contexts.

Follow-up Phase and Piloting:
A continuation phase supported by online sessions. During this period, participants implement DISC-inspired pilots at their institutions and document their learning and facilitation.

3.4 Online Learning Modules

Learning Module Structure within DISC:

Online Modules form the preparatory phase of the DISC CPD programme. These modules aim to build foundational competences in facilitating Education for Sustainable Development (ESD) by introducing core pedagogical concepts, tools, and methods relevant to competence-based and sustainability-oriented teaching.

Structured into five self-learning modules, the online component offers a flexible and accessible learning format that allows participants to engage with key topics at their own pace. The modules cover areas such as competence-oriented learning and validation, open educational resources (OER), facilitation strategies, sustainability frameworks, and practical tools for designing and assessing learning in diverse educational settings.

The online phase is designed to prepare participants for the in-person workshop, a 5-day training that focuses on applying these concepts through hands-on activities, peer collaboration, and facilitated reflection. During this workshop, participants explore how to implement active and learner-centred approaches—such as design thinking—to support sustainability-related learning initiatives.

The online cousre, hosted in DISC Learning Suite (https://moodle.disc-eu.org/course/index.php?categoryid=1), “Facilitating Education on Sustainable Development” consists of 5 modules and 1 OER Respository

1. M1: Competence Oriented Learning and Validation (COL&V -> Facilitating SD)
2. M2: Facilitation of Design Thinking and Collaborative Research
3. M3: Open Educational Resources
4. M4: LEVEL5 approach
5. M5: Sustainable Development 101
6. OER repository on Sustainability

3.4.1 Module 1: Competence-Oriented Learning and Validation (COL&V)

This module introduces participants to the theory and practice of competence-oriented learning, with a strong emphasis on learning processes in informal and non-formal education. Drawing on the REVEAL framework and the LEVEL5 system, the module supports educators in developing competence-based learning environments and making learning outcomes visible through formative validation.

Module structure:

- LU1: Educational Trends and Background – Contextualises COL&V within wider pedagogical shifts.
- LU2: Competence Theory and Acquisition – Presents a multidimensional understanding of competence (knowledge, skills, attitudes).
- LU3: Validation – Reviews European frameworks (EQF, ECVET, EUROPASS) and introduces the principles of validating informal learning.
- LU4: Planning COL&V – Guides educators in designing structured yet flexible learning pathways centred on competence development.

The module serves as the conceptual and methodological foundation for the rest of the course.

3.4.2 Module 2: Open Educational Resources (OER)

This module explores the potential of OER as both a didactic approach and a practical strategy to support accessible, collaborative, and sustainability-focused education. Educators are introduced to the theoretical background of OER and are guided through exercises designed to build their capacity to source, adapt, and create their own open learning materials.

Module structure:

- LU1: OER – Background and Basic Ideas – Introduces the philosophy and policy framework underpinning OER.
- LU2: Using and Creating OER – Provides guidance on licensing, copyright, content curation, and production.
- LU3: Application in One's Own Context – Offers tools and templates for designing OER-based activities within participants' specific teaching environments.

This module also links to the DISC OER Repository for Education for Sustainable Development, a curated multilingual database of course materials, toolkits, games, and learning resources aligned with the SDGs.

3.4.3 Module 3: Facilitation of Design Thinking and Collaborative Reserach

This module prepares educators to facilitate design thinking and collaborative research processes that address sustainability challenges. It combines structured problem-solving with participatory methods, enabling educators to lead user-centred, evidence-informed innovation in educational and community contexts. Rather than presenting design thinking as a fixed method, the module highlights its pedagogical value when supported by effective facilitation. Participants learn how each phase fosters creativity, reflection, and co-creation, and how collaborative research can generate meaningful insights.

The module is underpined by the *DISC Concept: Design-Based Collaborative Research*, a required reading that outlines how design thinking integrates with applied research. This provides the theoretical and methodological basis for the facilitation tools and activities used throughout the course.

Module structure:

- Introduction to Design Thinking and DBCR
  Explains the core principles, and relevance of design thinking and collaborative research in the context of Education for Sustainable Development (ESD).

- Step-by-step facilitation tools and learning materials for each design thinking phase:
    - Empathise – Techniques to help learners explore stakeholder needs and understand real-world contexts.
    - Define – Methods to frame clear and actionable problem statements.
    - Ideate – Creative approaches for generating diverse, user-centred ideas.
    - Prototype – Tools for building simple representations of solutions and encouraging feedback.
    - Test – Strategies to validate concepts and refine ideas based on user responses.

Each phase includes curated resources such as activity guides, reflection prompts, and interactive H5P elements. These materials are designed to help educators confidently plan and facilitate learner-centred design and research workshops across disciplines and settings.

By the end of this module, participants will be equipped to facilitate innovation processes that are both creative and grounded in collaborative inquiry—preparing learners to tackle sustainability challenges with insight, empathy, and agency.

3.4.4 Module 4: The LEVEL5 Approach

This module provides practical guidance for using the LEVEL5 system to plan, deliver, and assess competence-based learning. LEVEL5 is particularly suited for non-formal, experiential, or project-based learning settings, and is central to the DISC approach.

Module structure:

- Competence Theory – Revisits the multidimensional model (knowledge–skills–attitudes) in practical application.
- LEVEL5 Competence Taxonomy – Describes the use of reference systems to design learning aligned with competence development.
- LEVEL5 Cube – A visual tool to support both learner reflection and the documentation of growth.
- Plan–Do–Check Model – Supports educators in structuring learning cycles and integrating validation processes.

Participants are introduced to templates and planning tools that can be used for project documentation, formative assessment, and summative validation.

3.4.5 Module 5: Sustainable Development and the SDG Explorer

This module grounds the course in the broader context of sustainability education, supporting educators in integrating the SDGs into their teaching. It combines conceptual material with structured self-guided learning and reflective visioning.

Module structure:

- The SDG Background – Foundational knowledge on sustainability, the 2030 Agenda, and systems thinking.
- The SDG Explorer – A self-paced tool that supports individual and team-based engagement with sustainability topics, from awareness to ideation.
- Visioning and Application – Encourages participants to explore how sustainability can be embedded in their institutional, disciplinary, or organisational contexts.

The module is structured to function both as a standalone course and as a springboard for implementing SDG-related projects through design-based learning.

3.5 In person workshop

A core component of the DISC Facilitator Course is the in-person workshop, which serves as a crucial learning space following the online module phase. This workshop is designed to immerse participants in practical, collaborative, and experiential learning, with a strong focus on facilitation techniques and the application of Education for Sustainable Development (ESD) principles.

The in-person phase enables participants to apply theoretical knowledge, observe and practise facilitation strategies, and co-develop solutions to real-world sustainability challenges. It also fosters peer learning and exchange, while modelling diverse pedagogical approaches in support of learner-centred, competence-based education.

In the following section, the piloted in-person training held in Turin (December 2023) is outlined. This serves as a reference example for future implementations of the DISC CPD workshops in different institutional and regional contexts. Importantly, the workshop also acts as a springboard for participants to develop and deliver their own ESD learning modules or projects, which marks the final phase of the facilitator course.

3.5.1 Programme and CPD Training in Turin

The in-person training took place from **11–15 December 2023** in **Turin, Italy**, and was hosted by the DISC project partners. The week-long training was attended by 24 participants representing higher education institutions and adult education organisations across Europe.

The training combined short theoretical inputs with applied group work, field-based research, and peer exchange. A diverse set of didactic formats were used—including design thinking tasks, plenary reflection, and collaborative prototyping—structured around the following recurring elements:

- Morning Input Sessions – Introduced facilitation tools and methods relevant to ESD and sustainability competences.
- Applied Group Exercises – Focused on place-based sustainability challenges, often conducted off-site.
- Facilitation Observation – Participants reflected on the trainer's techniques and classroom dynamics.
- Peer Collaboration – Teams worked on defining and co-developing sustainability learning formats or interventions.
- Reflection and Feedback Rounds – Provided space for structured exchange and group reflection on the learning process.

A highlight of the Turin programme was a sustainability research field activity conducted at the *Mercato Centrale*, a public urban marketplace. Participants worked in small teams to observe, explore, and analyse aspects of sustainability through a local lens using a design thinking-inspired format. Each team identified a challenge, mapped relevant stakeholders, and presented findings, forming the basis for discussion on how local phenomena can anchor broader sustainability learning.

3.5.2 Learning Objectives of the In-Person Training

The in-person training was designed to meet the following key learning objectives:

- **Apply facilitation techniques** for ESD with a focus on learner-centred, competence-oriented methodologies.

- **Experience and reflect on creative and collaborative learning approaches**, including methods from design thinking and open learning.
- **Translate sustainability concepts into local learning contexts**, using field-based research to explore real-life challenges.
- **Observe and critically assess facilitation practices**, including group process management, inclusive participation, and formative validation.
- **Initiate the design of personal ESD learning formats or courses** to be implemented post-training, drawing on workshop insights and peer feedback.

3.5.3 CPD Training Program in Turin

DISC CPD In-Person Training

Project Number: 2021-1-DE02-KA220-ADU-000028285

Date: 11-25 December, 2023
Venue: Mercato Centrale, Turin, Italy

Co-funded by the European Union

	11/12/2023	12/12/2023	13/12/2023	14/12/2023	15/12/2023
	Take-off	Learning	Research	Landing	Feedback
09:00	Arrival	**Input and Discussion:** - Experience with ESD - Teaching formats for ESD	Presentation of DISC Master Thesis	Input and Discussion: - Innovation and Sustainable Culture - Storytelling	Training evaluation and participant validation
10:00		**Input:** **DBCL, Open Learning and Didactic Framework**	Research Methodology	Presentation of innovative products and services	
11:00		Workgroup #1a Develop Concepts for Design Based Collaborative ***Learning***	Workgroup#2a Develop Concepts for Design Based Collaborative ***Research***	Workgourp#3a Prototype and Presentation Preparation	Follow up phase and Microcredentials
12:00					
12:30	Lunch Break				Departure
14:00	Introduction and Welcome	On the move #1 Mercato Market as sustainable learning space	On the move#2 Mercato Market as sustainable learning space	Workgourp#3b Prototype and Presentation Preparation	
15:00	Excursion to the Mercato Market				
16:00	DISC Presentation -Sustainable Culture - DISC Methodology - DISC Virtual Exhibition	Workgroup#1b Speed Design Thinking: Develop of Modules for DBCL	Workgroup#2b Speed Design Thinking: Develop of Modules for DBCR		
17:00				Group Presentation	
18:00	Wrap up and Reflection				

3.5.4 Key Considerations When Designing the In-Person Workshop

When planning an in-person DISC training workshop, organisers should take into account the following design considerations:

Balance between Input and Practice
Limit theoretical inputs to concise sessions, ensuring the majority of time is devoted to participatory, experiential activities. Inputs should introduce a method or concept that participants can directly apply in structured exercises.

Contextualisation through Place-Based Learning
Incorporate field visits or community-based research (e.g. markets, neighbourhoods, public spaces) to allow participants to explore sustainability challenges in local contexts. This supports systems thinking and strengthens the real-world relevance of ESD.

Learning by Facilitating

Create opportunities for participants to step into the role of facilitator—for instance, leading warm-ups, guiding group tasks, or presenting interim results. Observing and practising facilitation builds confidence and deepens understanding of group dynamics.

Foster Collaborative Course Design

Reserve dedicated time for participants to co-develop or outline their own ESD learning formats. These planning sessions should be supported with templates (e.g. learning design canvases, stakeholder mapping tools) and facilitation coaching.

Build Community and Continuity

Encourage informal exchange, peer mentoring, and joint visioning throughout the week to strengthen the cohort. Introduce participants to the online follow-up phase and encourage continued collaboration through shared documentation tools and digital platforms.

4 The EQF Reference

As described in the first chapters, the DISC CPD is designed along two specifications:

- The ECVET specification to facilitate the validation of competences and
- The LOM specification to facilitate the transfer of (open) Educational Resources, here learning units and materials in a meaningful way to other LMS

The following chapters describe the theoretical groundworks and the concrete connections to the ECVET system as an instrument from the European Skills Agenda to validate learning outcomes of learners (in this case educational professionals) in the DISC CPD.

4.1 Validation

4.1.1 Competence Taxonomies

The increasing level of control (management) over a particular competence can also be called a 'competence level'. This implies that a 'competence' is a dynamic concept – competences grow while learning. The question on how to measure and document different competence levels is as old as it is complex. It has probably challenged generations of educationalists on practical, administrative and political levels; in formal education but also in professional development domains, such as in Human Resources.

The problem in measuring competences is not only a certain ambiguity in the term 'competence', caused for instance by different connotations in different languages, but also by different cultural views on competence and learning theory.

Additional complexity comes in as competences are – unlike (school) subjects – always dependent on their contexts. Teamwork competences are (among others) dependent on the team composition and the task; leadership competences are dependent on the group and the environment in which it is applied and teaching competences relate to the learning environment, the students and their familiarity with the learning schemes – among many other contextual aspects.

In order to operationalise competences, one needs certain reference points against which competences can be described.

Taxonomies are such reference systems.

They are the major instruments to classify, and later to measure and document competence levels.

4.1.2 Bloom's Taxonomy

One of the best-known taxonomies was developed by Benjamin Bloom in 1956 as Taxonomy of Learning Objectives. He differentiates 3 main areas:

- Taxonomy for the area of cognitive behaviour
- Taxonomy for the area of affective behaviour
- Taxonomy for the area of psycho-motor behaviour

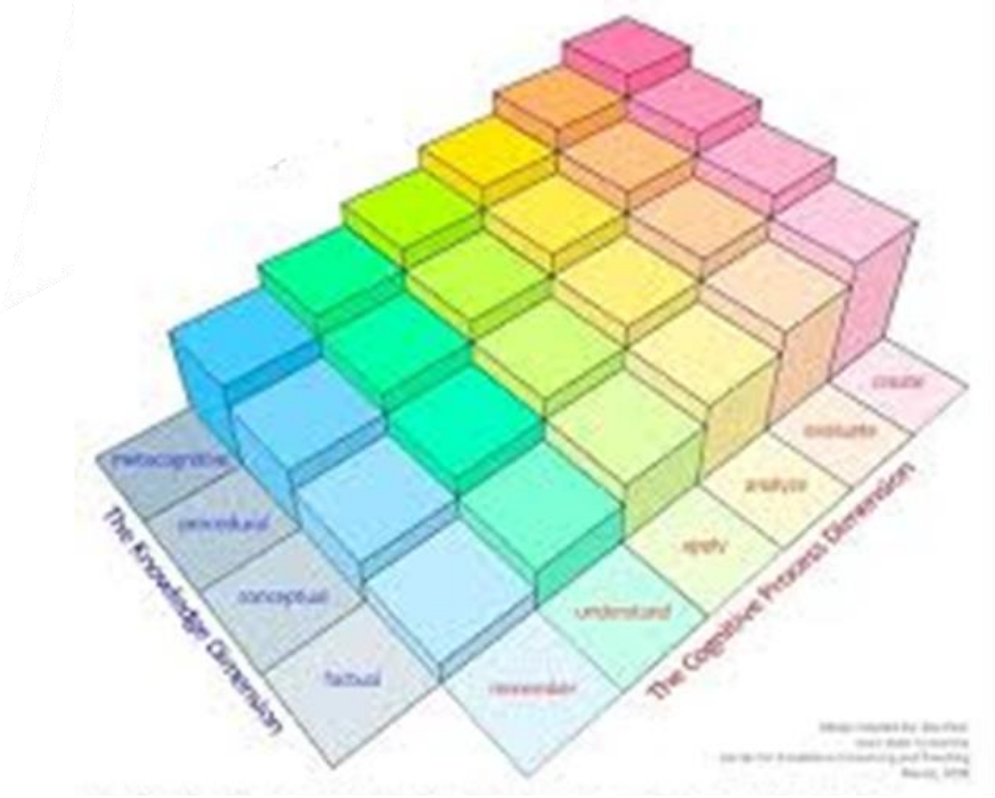

Fig. 5: Taxonomy according to Bloom

Bloom's taxonomy has been constantly further developed by his followers (Anderson/Krathwohl and others) and describes cognitive objectives, psycho-motor objectives and affective objectives along a number of quality levels.

4.1.3 EQF Taxonomy

A second, well known taxonomy is for instance the European Qualification Framework and the related Credit Transfer Systems (ECTS and ECVET).

	Knowledge[1]	Skills[2]	Competences[3]
LEVEL 1	basic general knowledge	basic skills required to carry out simple tasks	work or study under direct supervision in a structured context
LEVEL 2	basic factual knowledge of a field of work or study	basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	work or study under supervision with some autonomy
LEVEL 3	knowledge of facts, principles, processes and general concepts, in a field of work or study	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	take responsibility for completion of tasks in work or study >adapt own behaviour to circumstances in solving problems
LEVEL 4	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
LEVEL 5	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
LEVEL 6	advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts >take responsibility for managing professional development of individuals and groups
LEVEL 7	highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research >critical awareness of knowledge issues in a field and at the interface between different fields	specialised problem solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches >take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
LEVEL 8	knowledge at the most advanced frontier of a field of work or study and at the interface between fields	the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	

Fig. 6: EQF-Taxonomy

Both taxonomies not only differ in structure (EQF is clustered in Knowledge, Skills and Autonomy/Responsibility and has 8 levels while Bloom distinguished Cognitive, Psycho-Motor and Affective traits on 4-6 levels).

The main difference between these taxonomies – and this is often forgotten – is their purpose.

While 'learning' was in the focus of Bloom's taxonomy, 'qualification' is the main driver for the establishment of the EQF.

What all taxonomies have in common is that they aim to describe competence dimensions (the vertical columns) and competence levels (the horizontal competence qualities) with the help of learning outcome descriptors. These learning outcome descriptors have to be precise and consistent in order to facilitate distinguishing between different competence quality levels.

There are several other competence models and taxonomies which try to explain and describe competences and try to operate them for different purposes.

4.1.4 LEVEL5 Taxonomy

The REVEAL group has developed its own taxonomy (LEVEL5) based on the post-Bloom taxonomy in a blend with a derivate of the emotional intelligence taxonomy. It consists of Knowledge, Skills (capabilities) and Attitudes (emotions/values) on 5 levels. This taxonomy facilitates assessing, documenting but also planning competence developments in highly context-dependent environments such as learning in mobility or learning on the job or in leisure time activities.

LEVEL	KNOWLEDGE	SKILLS Capabilities	ATTITUDES Emotions/Values
5	**Know where else...** (Transfer Knowledge, *Strategic Knowledge*	**Transfering** Developing/ Constructing *Versatility*	**Incorporation** (Internalising) *„Unconscious" Competence*
4	**Know when...** Practical (Procedural knowledge	**Discovering**/ acting independently (disturbed systems)	**Commitment** *Affective self-regulation (Willing)*
3	**Know how...** Theoretical knowledge	**Deciding**/ selecting (Known systems)	**Appreciation** Motivation
2	**Know why**... (Distant understanding)	Applying **Imitating** (Exercising)	**Perspective taking** (Curiosity)
1	**Know-that...** Basic Perception	**Perceiving** Listening	Self orientation **Neutral**

Fig. 7: LEVEL5 Taxonomy

As Fig. 7 shows, the LEVEL5 taxonomy comes with general descriptors (’level titles’) which are derived partly from Bloom’s systems and partly from other taxonomies and concepts, like levels of ‘emotional intelligence’ and ’affective competence’ and affective self-regulation.

The LEVEL5 taxonomy is the basic system for so called ’reference systems’ in which the taxonomy is transferred to distinctive competences.

In the reference systems competences are contextualised with the help of specific learning outcome descriptors for each of the cells.

L	Level Titles	Level description	Level Titles	Level description	Level Titles	Level description
5	Knowing where else (strategic transfer)	Knowing how to enhance team processes in different teams. Knowing how to help other people act successfully in teams and to assign specific responsibilities to people keeping in mind their relevant skills.	Developing, constructing, transferring	Leading a team in a way that members are able to contribute to the best of their abilities, supporting them to do so. Being able to strategically develop a team.	Incorporation	Having internalised the "culture" of constructive team work and to accomplish goals through mutual support. Inspiring others to improve their teamwork skills.
4	Knowing when (implicit understanding)	Having substantial knowledge on how and when to join/form a team. Understanding strength and weaknesses of team members. Knowing the importance of communication and how to coordinate workflows.	Discovering acting independently	Being able to assign and coordinate specific tasks and roles to team members on the basis of their strengths and weaknesses. Monitoring team processes. Trying out new roles for one-self.	Self-regulation, determination	Feeling the importance to refrain from own preferences (e.g. in regard to procedures, own solution strategies, methods etc.) for the sake of the team and the teamwork. Being determined to be a good team worker.
3	Knowing how	Knowing the basic dynamics and demands of teamwork. Knowing how to engage in a coordinated work flow where the skills, qualities and limits of each member are taken into account in order to work efficiently.	Deciding/ selecting	Actively reaching out to join a team or help create a team. Contributing to the team process according to own strengths and needs for reaching the shared goal.	Motivation/ appreciation	Having a positive attitude towards working together in a team and to appreciate team diversity. Finding it important to have a 'team spirit'. Being motivated to develop own competence to successfully work in a team.
2	Knowing why (distant understanding)	Knowing that teamwork is a more effective way to achieve results. Knowing it demands from individuals to coordinate their work considering individual competences and abilities.	Using, imitating	Contributing to team work when being invited or instructed to. Fulfilling assigned tasks in a team by following the example of others.	Perspective taking	Being interested in the potentials of team work and to learn more about it.
1	Knowing what	Knowing that teamwork is collaborating with others to reach a shared goal.	Perceiving	Recognising situations in which teamwork is feasible to reach goals.	Self-orientation	Seeing teamwork as something positive, but without considering developing own team work competence

Fig. 9: LEVEL5 Reference system with general descriptors on teamwork

With the help of the reference systems each competence can be described properly on 5 quality levels along their three basic dimensions: the knowledge, skills (capabilities) and affective (value) competence components.

4.2 Validation Purposes

Prior to the transfer of the professionals' competences into the European EQF and ECVET systems we find it useful to start with a brief introduction to validation purposes in order to find out for whom and why this transfer might be useful (for more detailed information see also the chapter on validation in the BADGES toolbox and Valorisation)

Validation purposes can firstly be clustered along organisation levels:

- EUROPEAN level (European Commission)
- Transparency of qualifications
- Mobility
- Comparability
- European economic growth and stability
- INSTITUTIONAL level (enterprises, public institutions, schools)
- Finding personnel
- Providing evidences of own capacities
- Organisational development
- INDIVIDUAL level
- Showing potentials and competences
- Finding jobs
- Collecting evidences in CV
- Sharing competences for private projects/purposes

One can differentiate two main purposes

1. **Professional Formal Qualification:**

Purpose: 'profiling', identifying levels of competences and measuring 'performances'

Means: -> summative assessments and high level of formality, certification

2. **Personal development:**

Purpose: incentive for civic engagement, showing potentials of learners

Means:-> identification, formative assessment and low level of formality

Between those two poles there are a large number of different scenarios ready and waiting for competence validation:

- Continuing professional education and training for people working at cultural sites,
- Learning in leisure time (maybe even without a learning goal)
- Training on social/personal competences like teamwork, communication, customer orientation etc.,
- Orientation projects for young (unemployed) adults,
- Mobility projects for those Not in Employment Education or Training (NEETs) to develop their potentials and to bridge to the working life or formal education again,
- Self-learning arrangements, to give evidence to competences acquired in rather informal learning contexts, e.g. in volunteering n cultural or nature projects

just to name a few.

In REVEAL and the professionalisation of educators we probably encounter different expectations and functionalities related to validation:

1. a formative (learning process oriented) and
2. a summative (qualification oriented) assessment and documentation.

Hence the idea to connect to the formal system of EQF and ECVET is relevant only for those who intend to convert their competences into something “professional” or who might be interested in collecting evidence/proofs of these competences in their portfolios.

The transfer of our competence frameworks to EQF and ECVET is only meaningful in the professional context. ECVET for instance is literally connected to a system which is a cascade of

- Qualification
- Learning Units
- Knowledge, skills and competences (relating to responsibility and automy)

4.3 DISC Qualification Programme

The DISC CPD (qualification) is a continuing professional development offer to promote digital literacy, digitalisation learning topis and digital learning instruments.

Target groups are educational professionals, like trainers, teachers, semi-professionals who plan and deliver informal and non-formal learning and also those who develop and design IT based learning environments, or work in rather informal learning settings, but also professionals from other educational fields.

It is a blended learning system consisting of four learning units related to the competence areas of

1. Planning,
2. Delivering,
3. Evaluating innovative, competence-oriented learning and
4. Validation of learners' competence developments.

4.3.1 Competences to be acquired in the Programme

The DISC competence inventory gives an overview of 24 identified key competences for educational professionals. These competences are clustered into 5 competence areas: planning competences, competences related to the delivery of training, competences related to evaluation and validation and generic competences.

		Overall DISC Competence; Facilitating Design Based Collaborative Learning	
1	**A**	Comprising all planning and delivery competences listed below, to be used to create: **1.1. learning fields (in projects for facilitators)** **1.2. validation designs (competence oriented assessments)**	
	B	**Field-Competence**	
2		Being Competent in Digital literacy and Digital Learning	
	C	**Facilitation Sub-Competences**	
		1. Planning competences (incl. competence oriented learning)	
3	P1	Planning, preparation	Assessing learners' needs and motivations
4	P2	Planning, preparation	Designing and constructing trainings and programmes
5	P3	Planning, preparation	Planning and designing the learning process
6	P4	Planning, delivery	Deploying different learning methods, styles and techniques
7	P5	Planning, delivery	Creating competence-oriented learning offers:
8	P6	Planning, delivery	Creating an open learning environment
		2. Competences when delivering training/learning	
9	D1	Delivery	Facilitating ICT based learning
10	D2	Delivery	Facilitating (open) learning processes
11	D3	Support	Advising/counselling on career and further life planning
12	D4	Support	Mentoring an intern/trainee/apprentice
		3. Evaluation of the learning process	
13	E1	Evaluation, QM	Designing an evaluation process
14	E2	Evaluation, QM	Define and apply the right indicators/instruments for evaluation
		4. Validation of competence developments	
15	V1	Validation	Assessing competences and competence developments
16	V2	Validation	Evidencing competence developments as learning outcomes
17	V3	Validation	Integrating validation concepts promoted by the EU
18	**D**	**Generic Competences**	
19	G1	Personal/delivery	Being an expert in the content matter
20	G2	Self/personal	Lifelong learning
21	G3	Social/delivery	Motivating/empowering learners
22	G4	Social	Communication
23	G5	Social	Team work
24	G6	Social	Networking
25	G7	Social	Managing diversity
26	G8	Social	Intercultural communication

4.4 Transfer to ECVET and EQF System

The starting point of the qualification is an accomplished EQF level 3 and a LEVEL5 level 2.

It is not intended that the "qualification" (in ECVET terms) will end up at the research level.

Hence the scope of development will reach from ECVET level 4 to a maximum of ECVET level 6 which would bridge 3 levels and result in LEVEL5 level from level 2-5.

EQF level7 would be similar to master which would require a master thesis. This is something which could be offered in connection with a university but probably not in a CPD for professionals in AE.

The lower boundary (Level 3) is presented below as a starting point:

4.4.1 Starting level(EQF:3 / LEVEL5:4)

	Knowledge[4]	Skills[5]	Competences[6]
EQF Level 3	knowledge of facts, principles, processes and general concepts, in a field of work or study	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	take responsibility for completion of tasks in work or study >adapt own behaviour to circumstances in solving problems

In the following we put together the ECVET levels and their meta-descriptions with the LEVEL5 levels.

This is relatively easy as far as the knowledge and skills dimensions are concerned. In the case of the competences/attitudes we will in a first step stick to the LEVEL5 descriptors and bring in the "responsibility/autonomy –aspects after that.

To wrap up:

This file outlines a first attempt to create a "qualification" for potential professionals according to the ECVET taxonomy.

It is based on the 4 units related to the development, delivery, and validation processes.

A qualification range of ECVET levels 4-6 is envisaged

The sub-competences (of the 4 units) will be assigned to each level by using the LEVEL5 descriptors

For this purpose the descriptors from LEVEL5 taxonomy Level3-5 will be applied

[4] In the context of EQF, knowledge is described as theoretical and/or factual.

[5] 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).

[6] In the context of EQF, competence is described in terms of responsibility and autonomy.

4.4.2 Basic qualification level (EQF:4 / LEVEL5:3)

EQF	Knowledge	Skills	Competences
4	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
Unit	Unit 1: Planning – Knowledge on:	Unit 1: Planning – Skills on:	Unit 1: Planning – Attitudes on:
L5 Level[7] **3**	LEVEL5->Level3 / "Theoretical Knowledge – know how" To theoretically know how to create learning offers based on Learner and Competence Orientation. e.g. through multiple perspectives and concrete individual experiences involving authentic problems etc.	LEVEL5->Level3 / "Deciding/Selecting" To use existing learner and competence oriented training formats for the planning of courses/training offers. To select and try out appropriate formats.	LEVEL5->Level3 / "Appreciation" To value the planning of open and competence oriented learning as an/the appropriate format for learners to develop competences.
CD[8]	Ability to apply knowledge in known contexts (e.g. in protected case studies without disturbances)		
LO[9]	Knowledge on different learners needs Knowledge on Programme development Theoretical knowledge on learning process design Broad Theoretical knowledge on learning methods, approaches techniques Theoretical knowledge on Open learning environments	Assessing and evaluating learners needs Designing learning programmes accordingly Designing the Learning process accordingly Applying known learning methods, approaches and techniques from the own repertoire Using known tools and instruments for Open learning environments (known OER)	Appreciating and valuing learners needs analysis Positive attitude towards known programme development Appreciating and valuing known learning process design Openness and positive attitude towards known learning methods, approaches techniques and Open learning environments
Ass[10]	• Self/Tandem assessment with the LEVEL5 grid • Questionnaires • Knowledge tests or reports • Participants' feed-back	• Self/Tandem assessment with the LEVEL5 grid • Learning diary • Observations in the learning situation	• Self/Tandem assessment with the LEVEL5 grid • Learning diary • Observations in the learning situation • Observing level of autonomy and responsibility

[7] Corresponding LEVEL5 level
[8] Common Denominator: Central, transferrable level descriptor fitting both EQF and LEVEL5
[9] Learning Outcome Desription
[10] Possible assessment methods

4.4.3 Advanced level (EQF:5 / LEVEL5:4)

EQF	Knowledge	Skills	Competences
5	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 (new) 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
Unit	Unit 1: Planning – Knowledge on:	Unit 1: Planning – Skills on:	Unit 1: Planning – Attitudes on:
L5 Level[11] 4	LEVEL5->Level3 / "Theoretical Knowledge – know how" To have a very brought theoretical *and practical* background in order to transfer Learner and Competence Orientated Planning.(LCP) to other contexts and help other people to apply the approach as well	LEVEL5->Level3 / "Deciding/Selecting" To build knowledge and expertise, to construct related theory and practice regarding Learner and Competence Orientated planning. To help other trainers apply the right approaches.	LEVEL5->Level3 / "Appreciation" To have an incorporated reflex to plan the training in a learner and competence oriented way. To feel the need to help other trainers applying
CD[12]	Ability to apply knowledge in unknown (disturbed) contexts (e.g. in direct contact with learners in reality)		
LO[13]	• Knowledge on how to combine and to transfer • innovative assessment methods into new contexts • new programme design components for a consistent programme in an unknown situation • innovative appropriate learning process design in an unknown situation • innovative (unknown) instruments and approaches of LCP into new contexts • open learning environments fit appropriately to specific learning contexts, target groups and aspired competences	• To develop and transfer new methods to assess and evaluate learners needs • Designing learning programmes with unknown elements. To innovate learning programmes • To innovate learning processes, to transfer this in other contexts, to help others to apply it • Developing new methods, approaches and techniques (which were not even available in other repertoires) • Integrating those innovative tools and elements in new Open learning environments (known OER)	• Targets/Level descriptors • To feel the need transfer LCP in new situations and to help other personal to apply: • learners needs analysis • on programme development • Learning process design • methods, approaches techniques • Open learning environments
Ass[14]	• Self/Tandem assessment with the LEVEL5 grid • Participants' feed-back	• Essay • Learning diary • Observations in the learning situation	• Observing during discussions and self-reflections

[11] Corresponding LEVEL5 level
[12] Common Denominator: Central, transferrable level descriptor fitting both EQF and LEVEL5
[13] Learning Outcome Description
[14] Possible assessment methods

4.4.4 Expert level (EQF:6 / LEVEL5:5)

EQF	Knowledge	Skills	Competences
6	advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	manage complex technical or professional activities or projects, taking responsibility for decision making in unpredictable work or study contexts >take responsibility for managing professional development of individuals and groups
Unit	Unit 1: Planning – Knowledge on:	Unit 1: Planning – Skills on:	Unit 1: Planning – Attitudes on:
L5 Level[15] 5	LEVEL5->Level5: Transfer Knowledge To have a very brought theoretical *and practical* background in order to transfer Learner and Competence Orientated Planning (LCP) to other contexts and help other people to apply the approach as well.	LEVEL5->Level 5: Developing/Transferring To build knowledge and expertise, to construct related theory and practice regarding Learner and Competence Orientated planning. To help other trainers apply the right approaches.	LEVEL5->Level5 / "Internalisation"" To have an incorporated reflex to plan the training in a learner and competence oriented way. To feel the need to help other trainers applying
CD[16]	Ability to transfer competences in a versatile way to new contexts (e.g. to other cultural heritage domains)		
LO[17]	• Knowledge on how to combine and to transfer • innovative assessment methods into new contexts • new programme design components for a consistent programme in an unknown situation • innovative appropriate learning process design in an unknown situation • innovative (unknown) instruments and approaches into new contexts • open learning environments fit appropriately to specific learning contexts, target groups and aspired competences	• To develop and transfer new methods to assess and evaluate learners needs • Designing learning programmes with unknown elements. To innovate learning programmes • To innovate learning processes, to transfer this in other contexts, to help others to apply it • Developing new methods, approaches and techniques (which were not even available in other repertoires) Integrating those innovative tools and elements in new Open learning environments (known OER)	• To feel the need transfer in new situations and to help other personal to apply: • learners needs analysis • on programme development • Learning process design • methods, approaches techniques • Open learning environments

[15] Corresponding LEVEL5 level
[16] Common Denominator: Central, transferrable level descriptor fitting both EQF and LEVEL5
[17] Learning Outcome Desription

5 Planning Tools and Templates:

5.1 Action Field Template

Please give a short description on the action field (the context) related to your project:

What is the environment, the specific challenges and the overall objectives of the stakeholders

• **Name of your project**	
• Context	
• Target Group	
• Aims	
• Resources	
• Activities	

5.2 Learning Fields Template

Before designing the learning pathway it might be necessary to determine (after some thorough reflections) some basic "ingredients" of your learning offer.

You should do that in rather rough format -

Name of your project	
Competences needed/fostered	Problem solving Creative thinking ....
(Content) Themes tackled	List of relevant contents Context related themes ....
Competence dimensions	Knowledge Skills: Activities, Capabilities Attitudes: Emotions, Values

5.3 Reference System Template

	COGNITIVE/KNOWLEDGE		ACTIVITY		AFFECTIVE	
L	**Level Titles**	**Individual description/ explanatory statement**	**Level Titles**	**Individual description/ explanatory statement**	**Level Titles**	**Individual description/ explanatory statement**
5	Know where else (knowledge for transfer)		Developing/ Constructing Transfer		Incorporation Internalisation	
4	Know when (Implicit understanding		Discovering/acting indepen-dently		Commitment Volition	
3	Know how		Deciding/ selecting		Appreciation Motivation	
2	Know why (Distant understanding		Application, Imitation		Curiosity Perspective taking	
1	Know-what/know that		Perceiving		Self oriented, neutral	

5.4 Sequencing table

Learning pathways

Please describe the learning pathway of your learning project. Learning pathways are sequences of learning steps or learning units. To fill the table, you need to break down your learning project in chronicle steps/units.

Please also add your reference systems.

Step No.	Title	Content	Learning objective	Method Activity	Media/Resources	Duration/ Time	Competence column *Please indicate if the unit targets knowledge, skills or attitudes and if the difficulty is rather easy, medium or hard.*