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Curriculum for the EID qualification

EID Professional Profile development

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Introduction

The European Instructional Designer (henceforth, EID) is someone responsible for designing, developing, and delivering eLearning products and experiences, as well as coordinating the Instructional Systems Design (ISD) process. The learning products may include online courses, instructional manuals, video tutorials, learning simulations, among other digital learning experiences.

The EID's Global Competencies, although mainly relevant for the field of vocational education training (VET), can be potentially transferred to every other area of education (e.g., basic education, higher education, and adult education), and improve the quality of digital education.

In the European context, the professional Instructional Designer is fundamental for providing high-quality digital learning experiences—which came into even higher demand during the COVID-19 pandemic—and contribute to the 2021–2027 Digital Education Action Plan. Moreover, the development of Instructional Design can potentially contribute to the European Union's policy and strategy regarding digital and green transitions.

The EID's professional profile learning outcomes are in line with the European Qualifications Framework (EQF) Level 6. As prerequisites for the EID learning experience, it is supposed to have former knowledge in Educational Sciences, Design, Communication Sciences, or other relevant fields.

Glossary

Contact hours – Number of hours spent by trainees on activities guided by trainers/teachers (number of hours spent at the eLearning platform, in the face-to-face sessions and performing the theoretical and practical assessments).

Competence Unit – a module of the course, representing the learning o outcomes directly linked with at least one job function and in which the knowledge and skills achieved will be mobilized in specific job functions and related activities.

EQF – European Qualifications Framework.

Knowledge – The collection of facts, principles, theories and practices related to the field of studies or professional activity.

Learning Outcomes – statements of what an individual should know, understand and/or be able to do at the end of a learning process, which are defined in terms of knowledge, skills and responsibility and autonomy.

Skills – The ability to apply knowledge and use the acquired resources to complete tasks and solve problems. It may be cognitive (use of logical, intuitive or creative thinking) or practical (implying manual skill and the use of methods, materials, tools and instruments).

Responsibility and autonomy – The ability to develop tasks and solve problems of a higher or lower degree of complexity with different degrees of autonomy and responsibility.

Workload – Indication of the time trainees typically need to complete all learning activities (self-study, practical assignments and WebQuest) required to achieve the expected learning outcomes.

1. EID Overview

1.1. General Description

Historically speaking, instructional design has its origins in educational psychology (early twentieth century), being subsequently influenced by the development of general systems theory in the 1950s. It is an interdisciplinary area informed by disciplines such as cognitive psychology, communication, design, and creative technologies, whose main goal is to research and develop innovative methods within educational practices (A. H. Brown & Green, 2016). Consequently, it is common for instructional design teams to be composed of experts from different areas of knowledge, including designers, communication specialists, educators, programmers, project managers, assessment specialists, among others.

The approach used in instructional design depends on the context, the identified training needs, and the resources available (A. H. Brown & Green, 2016; Gibbons, 2014). The instructional design process involves systematic application of specific educational methods based on instructional theory and practice, to ensure the quality of instruction. Normally, the instructional design process begins with an analysis of the learning needs and objectives, followed by the development of all the instructional intervention's materials and activities, and evaluation of the different phases of instruction (University of Michigan, 2003). The systematisation inherent to the development of any given instructional design project can follow several approaches. The most well known is the ADDIE (Analyse, Design, Develop, Implement, and Evaluate) framework, which is essentially a synthesis of several instructional design models, that breaks down the instructional design process into five phases (see Section 1.2).

Also important for instructional design is the fact that it is not possible to separate the instructional process from the social and cultural circumstances, in which the educational needs are embedded. Consequently, any instructional process is necessarily complex and cannot be approached from a linear, reductionist worldview. It follows that instructional design ought to be pluralist, because knowledge and reality are experienced differently by every stakeholder. Therefore, a critical attitude towards the methods employed in the instructional process should be not an exception but a constant (Solomon, 2000).

Contemporary instructional design has a strong dependency on information technologies and—especially after the COVID-19 pandemic—on e-learning authoring tools. This is a consequence of technology's ubiquity in society, with repercussions at the personal and professional levels. Moreover, approaches to educational practices have become increasingly participatory, meaning that the needs of different stakeholders and their views about the educational content are taken into account.

Some learning solutions allow the beneficiaries of instruction to actively participate in their learning process, for example by allowing them to control some of the variables involved. These learning solutions may include custom mobile and web-based software applications, augmented reality systems, online content, collaborative learning and communities of practice, games, interactive video, podcasts, research through social networks, among other technological possibilities (Cennamo & Kalk, 2019).

It is also important to mention the advantages that rapid prototyping can bring for instructional design. Rapid prototyping is a recent method originally developed in the software industries which, as the name implies, focuses on short, iterative cycles of design, prototyping and testing with actual end users. Rapid prototyping brings a more empirical and constructive view to problem

solving, leverages the entire systematisation process with a more democratic approach that incorporates more opportunities for everyone involved to participate throughout the design process (A. H. Brown & Green, 2016).

Although instructional design is not a new field, as a profession it is still struggling for recognition, needing more professional educational opportunities and recognizable experts. Due to its interdisciplinarity, the profession has been constantly subsumed under other designations, such as training course designer, designer of corporate training, instructional developer, instructional engineer, instructional systems designer, among others.

The main goal of the instructional designer, which seems to be the most consensual expression, is related with the development of instructional experiences for diverse training courses, aiming the acquisition of knowledge and skills in a more efficient, effective, and appealing way (European Commission, n.d.).

1.2. The ADDIE Framework

ADDIE is an acronym for a set of actions related to instructional design processes, namely: analysis, design, development, implementation and evaluation. This concept emerged at Florida State University in the context of military training programs developed by Branson et al. (1975), with the objective of analysing and systematising different instructional processes. Subsequently, it became recognized as a common denominator to the generality of instructional design models, due to the sharing of the main phases that structure the existing models (Seel et al., 2017).

The five actions that make up the ADDIE framework are presented in twenty-one common procedures, at the end of which specific results are supposed to be presented.

Analysis

The analysis phase is intended to map and understand potential problems caused by the lack of instruction and which prevent a given task or set of tasks to be performed. This step includes a set of relevant procedures: (1) validation of the performance gap; (2) creation of instructional objectives; (3) learners' analysis; (4) survey of available resources; (5) instruction format proposal and budgeting; and (6) development of a project management plan.

After the development and presentation of these tasks, the instructional designer is expected to show that the solution presented solves the identified problem, indicating to what extent the instruction can bridge the gap. Also relevant at this stage is the recommendation of a set of strategies to address the lack of instruction acknowledged through empirical evidence, to which the instructional designer should indicate critical success factors.

The analysis phase should be presented in the form of a report that includes the following topics: performance evaluation, overall objectives, specific instruction objectives, a detailed analysis of the learner's profile, the listing of resources needed, the instruction format proposal and budgeting, and a management plan (Branch, 2009).

Design

The Design phase focuses on determining the instruction performance and evaluation process. To this end, it is common to begin the process by (7) listing a task inventory, (8) determining specific performance objectives, (9) planning the type of testing to be implemented, (10) and forecasting the return on investment.

The Design phase in the ADDIE process is a key step. The instructional designer should have a clear sense of the needs, purpose, goals, objectives, strategies, and evaluation.

The process should result in a brief to present to the client, which should include the identified aspects, the action plan, and the return on investment . During the interaction with the client, their approval and support for the subsequent phases should be explicit.

After implementing the Design phase, the instructional designer should be able to present a set of operational specifications to address the lack of training in a given area due to lack of knowledge and skills (Branch, 2009).

Development

The development phase is where the set of instructional content is created and validated. In particular: (11) specific content for each learning situation; (12) appropriate training materials and media are selected or developed; (13) guidance for learners is prepared; (14) support is provided for the trainers or teachers in charge; (15) revision of the training is implemented; (16) and a pilot test of the instruction is accomplished.

After the development phase is completed, the recognition of all proposed tools and materials is supposed to happen, in view of their application in the instructional process. This is a very productive moment, in which multiple resources are created: didactic content, identification of additional resources, planning of instructional moments, planning of pedagogical strategies, selection of information and communication media to support the unfolding of learning activities, careful choice of options for each training session and tasks for learners to develop autonomously, selection of diversified support resources for the teacher to use along with the learners, evaluation criteria and planning of formative assessment, synthesis of the most significant revisions, and presentation of the pilot test results (Branch, 2009).

Implementation

The implementation phase involves preparing the environment where the educational experience will take place and how the learners will be engaged in the instruction. It is important to consider a thorough organisation of all information and the setup of the necessary conditions for both the teacher and the learner(s) to develop their activity. In this context It is necessary to focus on (17) the guidance of the teacher; and (18) the guidance of the student.

Once the implementation phase is complete, the conditions to begin instruction are met, in which the learners will be able to assimilate the knowledge required to perform the task or set of tasks that called for the instruction in the first place. This phase concludes the instruction process and precedes the evaluation stage.

The results presented in this phase focus on reporting the implementation strategy. In general, this document presents the instruction learner's plan and the teacher's plan (Branch, 2009).

Evaluation

The evaluation phase focuses on the quality of the entire instructional process and the teaching materials produced for this purpose, both before and after their implementation. This step is guided by: (19) the definition of evaluation criteria; (20) the selection of evaluation instruments; (21) and the evaluation implementation.

Following the instruction evaluation, it is possible to identify the most positive aspects and opportunities for improving the whole process, the less positive circumstances, and potential risks to the instruction's success.

The results are presented as an evaluation plan containing an overview of the general and specific objectives, collected data for the instruction characterization, timing and main agents involved in this phase, presentation

of the summative evaluation criteria, and a list of the evaluation instruments (Branch, 2009).

1.3. Design Thinking

Introduction

When discussing the notion of Design Thinking, we should make an important distinction from the outset: Design Thinking (DT) is the term that describes the cognitive processes that designers follow while designing (Cross et al., 1992); however, the concept also describes a specific method used in human-centred design (HCD) approaches, and from this point of view, Design thinking is a human-centred approach to innovation that builds on the traditional skills of designers to reach creative solutions to complex (human) problems (T. Brown, 2009). Until recently, these views had been at odds. However, recent theoretical developments have shown that a synthesis between these perspectives is emerging.

We can describe Design thinking as an overall approach and a set of tools to solve problems creatively. Creative problem-solving is an inescapable aspect of how designers work (and think), which means that DT is better understood as both a method and a *designerly* way (Cross, 2007) to solve problems and innovate. From this standpoint, it is clear that DT is closely associated with innovation. In fact, there are numerous books published over the last twenty years that draw a direct connection between innovation and design thinking (Beckman & Barry, 2007; Carlgren, 2013; Chasanidou et al., 2015; Liedtka, 2015; Ward et al., 2009). Nevertheless, DT is not just a method to solve problems; design thinking is founded on the notion that all creative problem-solving should be approached through the lens of human-centred design. In the third edition of his widely cited guide, Robert Curedale defines Design Thinking as

"(...) an approach to designing that supports innovation and intelligent change [it] is a human-centred approach which is driven by creative and analytical thinking, customer empathy and iterative learning" (Curedale, 2016, p.62).

Furthermore, Design Thinking has been welcomed by management research and practice as a method to unlock creativity, and currently, the term design thinking effectively means a design-based approach to innovation in fields as disparate as business, healthcare, public institutions, or education. It is important to note that, like Curedale and others argue, while design thinking is better understood as an overall approach to innovation (Camacho, 2020) and more a mindset than a particular procedure, it nevertheless arrives structured in a set of stages or steps. Most authors agree there are five main phases to any design thinking process: **Empathise, Define, Ideate, Prototype,** and **Test**; yet, it is essential to note that each step is flexible, every situation requires a custom approach, and taking an integrative mindset to projects is crucial in a design thinking process.

Empathise

The foundational idea supporting this phase is understanding the people for whom the product or service is intended. In this stage, the focus is often on gathering primary sources using interviews, questionnaires, field observation, and similar methods. The goal here is obtaining a high-resolution "picture" of whom one is designing for and the underlying problems affecting their context.

In short, it is during this stage that designers get to know the people they are designing for; understanding their needs and feelings is difficult but the key to the design of successful products, services, or experiences. Even though the stage is called 'empathise,' it actually involves research and qualitative and quantitative data collection. The main approaches used in this process are

observation, engagement, and immersion in the specific context and the particular people who inhabit it. In practice, there are several ways to do this (Lewrick et al., 2020), and each situation will require a custom-based approach.

Define

The defined stage is critical for a successful DT process. *Define* is similar to the hypothesis generation step of the scientific process (which is why some people who follow design thinking as a methodology apply the term 'hypothesise' instead of 'define'); in short, here we are dealing with **problem definition**.

It is often the case that people assume they know what their problem(s) are. However, first impressions of a problem are rarely accurate or deep enough; as such, people will reserve enough time and space to explore the problem-space in a DT process. This exploration implies refining and reframing early premises until we reach a more detailed understanding of the actual problem that needs to be solved. In practice, what happens is that we take data from the previous stage, and we unpack and synthesise those findings in search of insights or the uncovering of patterns.

So, when the collected data is analysed, we could conclude that more data is actually needed to proceed. Here we begin to realise how the DT process is seldom linear or a straightforward step by step procedure. In fact, one may well continue to gather data as the problem becomes more and more defined. This means that the problem definition stage is perhaps the most ambiguous to describe since it implies working with incomplete information and high levels of ambiguity.

Ideate

The next phase in the design thinking process is ideate, which simply means coming up with numerous solutions to the previously defined problem. It is

important to note that this stage is disruptive of the linearity of the entire process; just like we have seen in stage two (define), during ideation solutions may emerge that actually redefine the problem again. This situation is common in any design process (the design process could be described as the search for a suitable problem-solution pair (Dorst & Cross, 2001) and is well-known for designers. However, when people without a background in design engage in DT, they may find ideation odd for that reason.

So, what are the different ways to approach ideation in Design Thinking? The primary principle is to aim for quantity, i.e., the goal is to develop a diversity of solutions; this means we should focus on quantity, not quality. Quality can be determined at a later stage. Therefore, generating as many ideas at the outset is the critical part. To achieve this, all participants must suspend judgement on the suitability of the ideas generated. Furthermore, during ideation, it should be ensured that everyone collaborating on the project is heard.

The key point (and the most difficult to achieve) is that we should focus on balancing novelty and usefulness in the ideation process. Too much novelty, and we risk developing a useless or incomprehensible product, but too much focus on usefulness may result in a product that does not bring anything new. In the elusive middle spot between novelty and usefulness, we reach innovation.

Prototype

The fourth phase in the design thinking process is prototyping, where we develop a physical form of what we are trying to put out for our users; in other words, it is a mock-up of what it is that we want to make. Again, the goal is to ensure that the problem we have identified, the problem we have ideated on, and the problem we have tried to solve with our prototype is the right problem.

Therefore, when creating a physical prototype of whatever it is that is being designed, the critical issue is to explore how it is working or not working. So, at this stage, we collect data about what works and does not work from an analysis/manipulation of the prototype; this also represents a chance to discuss the artefact being designed to analyse if it meets the needs of the people that will use it. To achieve this, some of the principles that must be kept in mind and embraced are:

Failure: some things that will not work as expected, and we need to be comfortable with that fact and, again, embrace the unpredictability of the design process because the more we can abandon what failed and move on to a new solution, the faster and better the product will be in the end.

1. Iteration: means multiple attempts of the same procedure (in this case, mainly of the ideation–prototype sequence), constantly building on the result of a previous iteration; iteration is a means of obtaining closer approximations to the problem's solution. There are always many versions and variations of a design, and it is rarely the case that the first prototype matches the final product.

2. Learning: Finally, it is crucial to be mindful that we *learn* from the prototype and are ready to take a step back (iteration); this means that we may need to revisit the stages of empathy, define, and ideate. Although the design thinking process only appears linear from a superficial understanding, it is highly iterative and cyclical when put to practice. The essential idea is that the team learns with each iteration and carries that knowledge to the next cycle.

Test

The last phase of the design thinking process is **testing**. However, we can never be sure that this is the final stage because we may learn something from testing that takes us back to **ideation** or even to the research stage and back to ideation. Therefore, testing is not the end of the process but just the end of a particular *ideate–prototype–test* cycle. This means that the best way to understand the DT process is to realise it is a loop that ends, just like with any design process, when we reach a practical and innovative problem-solution pair.

Therefore, we refine our problem-solutions based on what we learn during testing, and hopefully, we will solve these problems that we set out to define in the early stages. Testing is a stage where the participation of the target audience is critical; in order to have quality data to iterate, we must test solutions (whole or partial) with the people that are actually going to use our product, service, or experience.

An integrative Model of Design Thinking

A recent study (Camacho, 2020) with worldwide experts on design thinking proposed a model that integrates several perspectives into a holistic framework that summarises the main principles of Design Thinking and provides a foundation for design thinking practice.

The Model is based on three Fundamental Principles: Design Thinking is Creation-Based, Human-Centred, and System-Oriented.

Principles of Design Thinking		
Fundamentals	Actions	Dynamics

Creation-based	• Devise, shape, implement • Alternate creative and analytical thinking • Prototype iteratively and confidently • Work in a shared space	• Comprehensiveness • Simultaneity • Iteration • Graduality Divergence/convergence
Human-centred	• Genuinely empathise with all stakeholders • Work in functional teams	
Systems-oriented	• Think comprehensively and ahead • Pursue harmony • Design gradually	

Table x. Principles of Design Thinking that constitute the Integrative Model of Design Thinking (Camacho, 2020)

The Integrative Model of Design Thinking summarises multiple approaches to design thinking into a coherent framework; the Model presents a set of fundamental principles of design thinking that inform any design thinking process regardless of the application context. As such, it is a valuable tool to equip multidisciplinary teams to practise design thinking.

1.4. UX (User Experience)

Over the last century, the way designers think about the relationship between people and artificial (i.e., designed) objects has gone from a focus on the form and function to the objects to a concern with the overall experience the objects can elicit on people while using them (Buchanan, 2001).

As products have become more deeply entangled with computational technology, design as a practice has moved closer to applied science and farther from applied art. Designed objects, the process to make them, and how they are expected to function have become significantly more complex. The emergence of User Experience (UX) as a subdiscipline of design practice is a direct consequence of those technological and epistemic shifts.

The Concept of Experience

Defining experience is not simple, however, Dewey (1980), offers a good foundation, as his characterisation has been heavily influential for design theory, particularly for the disciplines of Interaction Design and User Experience.

Experience is something different to what we think or accept based on authority or tradition; it refers to what we perceive through our senses; information from external sources, or through inner reflection. In this sense, experience relates to empirical observation. Nonetheless, because it relies on sensory perception, there is a strong relationship between experience and aesthetics, in the ample sense of the term, meaning something "perceived by the senses".

Dewey, being a pragmatist philosopher, regarded facts, ideas, and concepts as tools and theory as technique. Tools, in his view, are not all-purpose things because their usefulness depends on the situation in which they are employed. Dewey regarded theory as another form of specialised practice, consequently, in his view, genuine knowledge is "knowing how", rather than "knowing that". Because of that, he regarded perception not as something passive but as a participatory activity; as one more manifestation of a creature interacting with their environment. Moreover, Dewey distinguishes everyday experience: i.e., the type of saturated stimuli caused by our daily interaction with our environment, from an experience: a singular, identifiable, memorable episode whose qualities are interwoven by an aesthetic quality.

Dewey's views are evident in Hassenzahl (2010), who characterises experiences as unique emergent qualities that we cannot reduce or explain simply by explaining their elements or processes. However, Hassenzahl argues, those

elements can be studied and manipulated and, as a result, the overall experience can be shaped. An experience, thus, is a holistic lived episode that involves actions, images, sounds, feelings, and thoughts; it is a dynamic "narrative" that arises from the interaction between a person and their environment. An experience arises through action, motivation, and cognition, when activated at a given moment and context, and for a certain duration.

User experience is both an end result and a set of methods and processes that help achieve that end result and which have developed considerably over the last decade. Consequently, nowadays the term “User Experience” refers mainly to the process of researching and defining the requirements (technical, procedural, aesthetic) that any given design solution should meet to provide a satisfactory experience for users. User experience borrows empirical methods from the social sciences to better understand the needs of users while attending to the specifics of their contexts. In this sense, UX is completely inline with design thinking methodologies, particularly in the first (empathise) and last phases (test). By seeking to obtain as much knowledge as possible about their users, their goals, needs, and overall circumstance, UX is aligned with the principles of Human-Centred Design.

1.5. European Qualifications Framework (EQF)

Within the EQF the main aspects to consider are knowledge, skills, responsibility and autonomy. Knowledge is described as theoretical and/or factual. Skills are regarded as a cognitive subject, supported by logical, intuitive, and creative thinking, as well as something practical, based on manual aptitudes and the use of the right methods, tools and materials.

Responsibility and autonomy is described as the capacity to apply the right knowledge and skills in an autonomous and responsible way.

The EID professional profile corresponds to the EQF Level 6 learning outcomes, with the following specifications (Europass European Union, n.d.):

Knowledge

“Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles”.

Skills

“Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study”.

Responsibility and autonomy

“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”.

2. EID Global Competence

2.1. General Description

Learning outcomes, being an important part of the curriculum, guide teachers and trainers on the teaching process and inform the learners about what they are expected to achieve. Learning outcomes are defined as statements of what a learner knows, understands and is able to do on completion of a learning process, which is defined in terms of knowledge, skills, responsibility and autonomy (Cedefop, 2017). For the definition of the QUEST learning outcomes and the EID Global Competence, the consortium adopted the methodological guidelines provided in the following documents:

- The *European Skills/Competences, qualifications, and Occupations (ESCO) for the Instructional Designer*[1]
- The *Design perspectives: design skills* strategy launched by the Design Council[2]
- The *OECD PISA global competence framework* for students in an interconnected world[3]
- The EntreComp: The Entrepreneurship Competence Framework by the European Commission[4]
- The DigComp 2.0: The Digital Competence Framework for Citizens by the European Commission[5]
- The GreenComp: The European sustainability competence framework by the European Commission[6]

[1] instructional designer | Esco
[2] Design perspectives
[3] Global competence - PISA
[4] The European Entrepreneurship Competence Framework (EntreComp)
[5] DigComp 2.0: The Digital Competence Framework for Citizens.
[6] GreenComp: the European sustainability competence framework

2.2. Scientific and Empirical Knowledge and Key Skills

- Scientific and Empirical Knowledge
- Key Skills

Apply theories of learning and instructional design: draw on the multiple perspectives on learning, including behaviorism, cognitivism, constructivism and social-cultural learning, and theories of instructional design to develop functional instruction in term the learning content, learner characteristics and learning environment (Ertmer & Newby, 1993; Sawyer & Nathan, 2014; Wilson & Myers, 2000).

"The human mental processes such as attention, memory, language use, perception, problem solving, creativity and thinking" (European Commission, n.d.), as well as "the three major types of learning described by behavioural psychology — classical conditioning, operant conditioning, and observational learning" (Cherry, n.d.).

Identify customer requirements: "Apply techniques and tools, such as surveys, questionnaires, ICT applications, for eliciting, defining, analysing, documenting and maintaining user requirements from system, service or product" (European Commission, n.d.).

Identify training needs: "Analyse the training problems and identify the training requirements of an organisation or individuals, so as to provide them with instruction tailored to their prior mastery, profile, means and problem" (European Commission, n.d.).

Rely on Instructional Design models: "The guidelines or strategies for designing and developing instructions to ensure learners achieve the intended learning outcomes" (European Commission, n.d.).

Apply learning outcomes approach: Learning outcomes and domains, such as prescribed by the original writings of Bloom's taxonomy and domains (Bond & Dirkin, 2020; Kumar & Ritzhaupt, 2017; Ritzhaupt & Kumar, 2015).

Translate requirement concepts into content: "Develop digital content by following given requirements and guidelines" (European Commission, n.d.).

Apply and adjust teaching strategies to fit the context: "Employ various approaches, learning styles, and channels to instruct students. (...) Use a wide range of teaching devices and methodologies appropriate to the class content, the learners' level, goals, and priorities" (European Commission, n.d.).

Structure Information: "Organise information using systematic methods such as mental models and according to given standards in order to facilitate user information processing and understanding with respect to the specific requirements and characteristics of the output media" (European Commission, n.d.).

Provide written content: "Communicate information in written form via digital or print media according to the needs of the target group. Structure the content according to specifications and standards. Apply grammar and spelling rules" (European Commission, n.d.).

Use concepts and fundamentals of project management: "Prioritise, organise and follow-up; Set long-, medium- and short-term goals; Define priorities and action plans; Adapt to unforeseen changes' ' (European Commission, 2016b, 13).

2.3. Design Skills and Mindsets

- Problem Solving

- Practical Skills
- Humanity Centred

Apply critical thinking: "Understand the ways things are now, see what is not acceptable and imagine what it ought to be in the future" (Design Council, 2020, 7).

Adapt to circumstances with resilience and focus on objectives: "Sees things that don't work as learning points and keep eye on the goal" (Design Council, 2020, 7).

Use iterative and reflexive processes: "Think through making things (make a 'move', see what happens, make the next move based on that) (Design Council, 2020, 7).

Realise the problem in cooperation with Others: "Understand the problem first by simply posing questions or provocations – for others to respond to" (Design Council, 2020, 7).

Create a plan of action: "Create a plan of action for turning ideas into change" (Design Council, 2020, 7).

Develop creative and purposeful ideas seeking innovation: "Look at old problems through different perspectives or frames, be playful, daring and cheekily provocative about what could be'' (Design Council, 2020, 7). "Develop several ideas and opportunities to create value, including better solutions to existing and new challenges; explore and experiment with innovative approaches; combine knowledge and resources to achieve valuable effects' ' (European Commission, 2016b, 12).

Integrate Systems Thinking while exploring solutions: "Bring together and combine ideas (from lateral places), see how elements fit into a bigger whole" (Design Council, 2020, 7).

Think through making: "Imagine what could be through physical or visual artefacts" (Design Council, 2020, 7). Expertise in storytelling is significant in this context.

Make things desirable, convenient, and enjoyable: "So they stand out and people want to buy or use them" (Design Council, 2020, 7). Expertise in copy is significant in this context.

Use Circular Design processes: "Use existing assets or materials and designs in how they can be repurposed at the end of their current use (Design Council, 2020, 7).

Provide choice and flexibility: "Consider choice and flexibility in how things are used or accessed" (Design Council, 2020, 7).

Know how to master materials: "Understand materials, whether physical (e.g. clay) or abstract (e.g. data, power) and know how to manipulate and handle/change them" (Design Council, 2020, 7).

Rely on Inclusive Design: "Communicate visually and inclusively so that everyone can get involved, and value diversity and difference (Design Council, 2020, 7).

Make connections with other ideas: "Build relationships and connect the dots – between ideas and energy that are already there" (Design Council, 2020, 7).

Explore different points of view to create new meaning: "Create dialogues between different points of view, to create new meaning and shift power" (Design Council, 2020, 7).

Work with Others: "Work together and cooperate with others to develop ideas and turn them into action; network; solve conflicts and face up to competition positively when necessary" (European Commission, 2016b, 13).

Learn through experience: "Use any initiative for value creation as a learning opportunity; learn with others, including peers and mentors; reflect and learn from both success and failure" (European Commission, 2016b, 13).

2.4. ICT Knowledge and Skills

- ICT Knowledge
- ICT Skills

Rely on authoring software: "The software that provides pre-programmed elements which allow the development of interactive multimedia applications in order to edit, structure and lay out content intended for publication" (European Commission, n.d.).

Rely on Learning Management Systems: "The e-learning platform for creating, administrating, arranging, reporting and delivering e-learning education courses or training programs" (European Commission, n.d.).

Rely on standards for Web-based E-Learning: "The standards and specifications used for web-based e-learning, such as Sharable Content Object Reference Model (SCORM), which define communications between client side content and a host system supported by a learning management system" (European Commission, n.d.).

Use content development processes: "The specialised techniques used to design, write, compile, edit and organise digital content, such as text, graphics and videos for publishing purposes" (European Commission, n.d.).

Adopt a publishing strategy: "The methods, rules, media and tools of publishing content from content management systems in single sources or cross media" (European Commission, n.d.).

Develop content with safety: "Protect devices and digital content, and understand risks and threats in digital environments; protect personal data and privacy in digital environments; avoid health-risks and threats to physical and psychological well-being while using digital technologies" (European Commission, 2016, 9).

Design Web-based courses: "Create web-based training and instruction courses using dynamic and static online tools to deliver learning outcomes to the audience of the course. Web tools used here can include streaming video and audio, live internet broadcasts, information portals, chat rooms and bulletin boards" (European Commission, n.d.).

Apply ICT terminology: "Use specific ICT terms and vocabulary in a systematic and consistent manner for documentation and communication purposes" (European Commission, n.d.).

Identify ICT user needs: "Determine the needs and requirements of ICT users of a specific system by applying analytical methods, such as target group analysis" (European Commission, n.d.).

Provide multimedia content: "Develop multimedia materials such as screen shots, graphics, slide shows, animations and videos to be used as content integrated in a broader informational context" (European Commission, n.d.).

Use different communication channels: "Make use of various types of communication channels such as verbal, handwritten, digital and telephonic communication with the purpose of constructing and sharing ideas or information" (European Commission, n.d.).

Apply tools for content development: "Use specialised content development tools such as content and terminology management systems, translation memory systems, language checker and editors to

generate, compile and transform content according to specified standards" (European Commission, n.d.).

Manage content development projects: "Plan and implement the creation, delivery and management of digital or printed content, develop a system that describes the entire editorial content development and publishing process and use ICT tools to support the process" (European Commission, n.d.).

Manage content metadata: "Apply content management methods and procedures to define and use metadata concepts, such as the data of creation, in order to describe, organise and archive content such as documents, video and audio files, applications and images" (European Commission, n.d.).

Use markup languages: "Utilise computer languages that are syntactically distinguishable from the text to add annotations to a document, specify layout and process types of documents such as HTML" (European Commission, n.d.).

2.5. Multifaceted Cognitive, Socio-emotional and Civic Skills

- Examine Issues of Local, Global and Cultural Significance
- Understand and Appreciate the Perspectives and World Views of Others
- Engage in Open, Appropriate and Effective Interactions Across Cultures
- Take Action for Collective Well-being

Combine knowledge about the world and critical reasoning: "People who acquire a mature level of development in this dimension use higher-order thinking skills, such as selecting and weighing appropriate evidence to reason about global developments" (OECD, 2018, 9).

Combine interdisciplinary knowledge and modes of thinking: "Globally competent students can draw on and combine the disciplinary knowledge and modes of thinking to ask questions, analyse data and arguments, explain phenomena, and develop a position concerning a local, global or cultural issue" (OECD, 2018, 9).

Recognize different cultural perspectives: "As individuals acquire knowledge about other cultures' histories, values, communication styles, beliefs and practices, they acquire the means to recognise that their perspectives and behaviours are shaped by multiple influences" (OECD, 2018, 9).

Respect Others' realities and their emotions: "Respect for and interest in who the other is, their concept of reality and their emotions. Individuals with this competence also account for and appreciate the connections (e.g. basic human rights and needs, common experiences) that enable them to bridge differences and create common ground" (OECD, 2018, 9).

Understand and adapt to norms, relationships and formality: "Understand the cultural norms, interactive styles and degrees of formality of intercultural contexts, and flexibly adapt the behaviour and communication to suit. This dimension addresses appreciation for respectful dialogue, and desire to understand the other" (OECD, 2018, 10).

Interact with Others across differences: "Interact with others across differences in ways that are open, appropriate and effective. Relationships in which all participants demonstrate sensitivity towards, curiosity about and willingness to engage with others and their perspectives" (OECD, 2018, 10).

Respond to a given local, global or intercultural issue or situation: "This dimension recognises that people have multiple realms of influence ranging from personal and local to digital and global. Competent people

create opportunities to take informed, reflective action and have their voices heard" (OECD, 2018, 11).

Identify and explain the main sustainability values: "Knows the main views on sustainability: anthropocentrism, technocentrism, and ecocentrism, and how they influence assumptions and arguments; knows the main values and principles underpinning socio-economic models and their relation to sustainability; can articulate and negotiate sustainability values, principles and objectives while recognizing different viewpoints; is willing to share and clarify views on sustainability values" (European Commission, 2022, 40).

2.6. Competence Units

The QUEST EID Global Competence comprises the objectives, Learning Outcomes, workload, contact hours and external resources, for the seven Competence Units (CUs) included in the qualification:

- **CU1 – Foundations for ID 101** – General theories and concepts laying the knowledge and skill base of instructional design, such as learning and instructional design theories, ID models, and instructional design principles;
- **CU2 – Learning Methodologies** – Systems of functional instruction, including learning needs and objectives, learner persona, learning modes (face-to-face learning, eLearning, mLearning, and bLearning), instructional methods (Micro-learning, problem- and scenario-based learning, game-based learning, simulation-based learning and collaborative learning), assessment, and learning pathways;
- **CU3 – Design Considerations** – Prototypes, templates, storyboard development, scenarios, interactivity, design principles to screen development;

- **CU4 – ID development** – Authoring software, audio and video editing, content development processes, UX, .scorm packages, and xAPI;
- **CU5 – ID Implementation** – Learning management systems, quality checking, publishing strategy and review, tutorship;
- **CU6 – ID Evaluation** – Evaluating short-, medium-, and long-term impacts, ROI and success rates;
- **CU7 – ID Project Management** – Project management, team and stakeholder management, budgeting, needs analysis, customer requirements, learning analysis, agile instructional design.

2.6.1. Learning Outcomes

COMPETENCE UNIT 1 – FOUNDATIONS FOR ID 101	Workload: 11h

OBJECTIVES
In this unit, learners will:
- Understand instructional design as a process of applying theories of learning and instructional design to develop functional instructional solutions
- Understand instructional design as an iterative problem-solving process that produces instructional solutions with learner-centered approach by interacting with the given instructional situation (i.e., the learning needs, target/potential users, and existing learning environment)
- Understand the instructional development models and develop awareness of the diverse roles of management, communication, and technology in an instructional design project
- Develop awareness of instructional designer as a continuously-developing professional who actively engages in interdisciplinary and intercultural collaboration for systematic and creative instructional design

LEARNING OUTCOMES

Knowledge	Skills		Autonomy & Responsibility
Scientific and empirical knowledge and skills in the areas of Instructional Design and contemporary views on learning and instruction.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.
Scientific and Empirical knowledge: • Learning theories • Instructional design theories • Instructional situation analysis • Instructional solutions • Instructional design models • Instructional design principles	Theoretical and Practical knowledge: • Acknowledge the recursive analysis problems and needs as part of the iterative instructional design process • Draw on theories of learning and instructional design to identify suitable instructional practices • Reason and justify the alignment between instructional situation and instructional solution with focus on learning objectives in instructional design system. • Organize ID models for designing instruction with broad and heuristic usage based on the key elements in the ID models • Reason and justify the alignment between problem, instructional solutions and selected ID models • Use understandable and shareable design language providing effective multi-stakeholders (e.g., customers, users, designers) communication	Theoretical and Practical knowledge: • Construct appropriate instructional technology integration solutions to given problem context • Recognize the roles and functions of technology in instructional design	Behaviour and attitudes: • Develop awareness of the diverse interactions within a learning environment and develop skills of interdisciplinary design for developing functional instruction • Develop awareness of multiple pagperspectives on culture, norms, formality, and needs in the local and global context through interdisciplinary collaborations among multiple stakeholders • Recognize contributions of life-long learning in local and global ID professional learning communities to developing as reflective problem solver and to change agency in the community

Related to the EID Global Competence framework: Demonstrate contemporary views on learning and instruction | Identify customer requirements | Identify training needs | Translate requirement concepts into content | Structure Information | Apply critical thinking| Think through making | Identify ICT user needs | Use different communication channels | Combine knowledge about the world and

critical reasoning | Combine interdisciplinary knowledge and modes of thinking | Recognize different cultural perspectives | Respect Others' realities and their emotions | Understand and adapt to norms, relationships and formality | Interact with Others across differences | Respond to a given local, global or intercultural issue or situation.

COMPETENCE UNIT 2 – LEARNING METHODOLOGIES — Workload: 13h

OBJECTIVE
In this unit, learners will:
- translate customer needs and requirements to learning needs and objectives within the given instructional situation
- generate effective instructional solutions based on learning and instructional design theories through an iterative problem-solving process
- convert the instructional solution into a learning path for detailing the instructional design
- develop the awareness of identity as a reflective and collaborative instructional designer engaging in systematic and culture-sensitive design with assistance of technology .

LEARNING OUTCOMES

Knowledge	Skills		Autonomy & Responsibility
Scientific and empirical knowledge and skills in the areas of Instructional Design and contemporary views on learning and instruction.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.
Scientific and Empirical knowledge: • Learning situation: Learner persona, learning needs and objectives, learning • Instructional solution: Learning modes, instructional methods, assessments and feedback, constructive alignment • Learning paths • Instructional design tasks • Learning objects	Theoretical and Practical knowledge: • Identify the impact of learner persona on the learning process and learning experience and use it to inform the instructional design decision • Utilize taxonomy of learning to analyze the learning content, learning process and expected learning outcomes based on learning theories • Analyze the learning process in terms of perspectives on learning and instructional design theories in relation to major learning outcomes • Develop constructive alignment among learning needs and objectives, instructional methods, and assessments with informative feedback in instructional solutions • Adapt instructional solution in compliance with given instructional situation (learning needs, target/potential learner persona, learning environment, and resource constraints) • Identify relationship between instructional solutions, expected instructional design tasks, and the development of learning objects	Theoretical and Practical knowledge: • Identify and integrate suitable and existing technology for rich-media learning and instruction (Presentation tools, graphics and infographics tools, video tools, interactive learning tools, etc.) • Reflect on the previous experience of using technology and use technology to analyze and visualize instructional situation and diverse ideas and design tasks for instructional solutions	Behaviour and attitudes: • Use inclusive learning approach to design instructional scenarios that respond to the local, global, or intercultural realities. • Reflect on the decision making in the problem-solving and collaboration process from intercultural and interdisciplinary perspectives

Related to the EID Global Competence framework: Demonstrate contemporary views on learning and instruction | Apply learning outcomes approach | Apply teaching strategies | Structure Information | Apply critical thinking | Adapt to circumstances with resilience and focus on objectives | Realize the problem in cooperation with Others | Make connections with other ideas | Create a plan of action |Integrate a systematized thinking while exploring solutions | Use Circular Design processes | Rely on Inclusive Design | Use different communication channels | Rely on learning management systems | Combine knowledge about the world and critical reasoning | Recognize different cultural perspectives | Respect Others' realities and their emotions | Respond to a given local, global or intercultural issue or situation

COMPETENCE UNIT 3 - DESIGN CONSIDERATIONS

Workload: 15h

OBJECTIVES

In this unit, learners will:

- Translate the learning path idea to a storyboard that will be later used in the development stage;
- Align the storyboard with the Learning Methodologies (CU2), providing instructional functions in a product;
- Learn to prepare the templates for collecting the content from clients, which will then be transformed into a learning product.

LEARNING OUTCOMES

Knowledge	Skills		Autonomy & Responsibility
Scientific and empirical knowledge and skills in the areas of Instructional Design and contemporary views on learning and instruction.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.
Scientific and Empirical knowledge: • Data Security needs. • Storyboards.	Theoretical and Practical knowledge: • Anticipate Data Security needs for the learning experience (RGPD, etc). • Analyse and arrange main ideas to create a storyboard, based on the selected instructional theory for the learning experience. • Develop the storyboard by creating interactive interfaces, taking into consideration teaching strategies in designing the learning interaction. • Implement an inclusive design approach when designing the storyboard and developing UX. • Illustrate the base for storytelling. • Include an indication of dynamics, sonoplasty and voice references in the storyboard. • Develop the scripts for the development of audio and videos, if included in the course. • Prepare the templates to collect the contents, according to the storyboard. • Write notes for the developers' team to indicate specificities	Theoretical and Practical knowledge: • Sort the different programs to use in the development of the storyboard and scenarios. • Define, together with the development team, the final format of the various pieces of e_elarning to be built (e.g. interactive screens, videos, pedagogical games, etc). • Develop content with safety. • Use technology for organising the materials' references.	Behaviour and attitudes: • Lead a discussion with team members to achieve a common understanding of the project and the instructional solution. • Take responsibility for the outcomes of the project. • Adjust the product to the client's expectations and demands through ongoing feedback loops to clarify the pedagogical needs in different learning stages.

Related to the EID Global Competence framework:
Rely on Instructional Design models | Integrate a systematized thinking while exploring solutions | Develop creative and purposeful ideas seeking innovation | Make things desirable, convenient and enjoyable | Think through making | Rely on Inclusive Design | Develop content with safety | Apply tools for content development | Realize the problem in cooperation with Others | Understand and adapt to norms, relationships and formality | Interact with Others across differences.

COMPETENCE UNIT 4 - ID DEVELOPMENT — Workload: 9h

OBJECTIVES
In this unit, learners will:
- Create desirable, convenient and enjoyable learning scenarios that enhance the learning experience;
- Implement content development processes that allow for flexible outcomes based on the users' needs;
- Design learning products that deliver high-quality learner experiences through multimedia exploration.

LEARNING OUTCOMES

Knowledge	Skills		Autonomy & Responsibility
Scientific and empirical knowledge and skills in the areas of Instructional Design and contemporary views on learning and instruction.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.

Scientific and Empirical knowledge: ● Learning product development. ● UX and UI. ● Interactivity. ● Authoring Software. ● Video Audio and Image Edition. ● Scenario development.	Theoretical and Practical knowledge: ● Develop the scenarios for the learning experience that correlate with the storyboard, by considering cognitive engagement, affective response and social interaction.. ● Identify the interactive and non-interactive processes of the training. ● Construct learning products by applying UX concepts, aligning with the instructional functions. ● Predict UI obstacles and present solutions to implement the training. ● Passing development work to the development team (IT/coding) by providing all the necessary information for development	Theoretical and Practical knowledge: ● Select an authoring software for developing prototypes. ● Perform video, audio and image editing to apply to learning products. ● Compress videos to be uploaded in LMSs. ● Generate communication protocols for tracking learning-related activity.	Behaviour and attitudes: ● Lead a discussion with team members to achieve a common understanding of the project and the instructional solution. ● Apply empathy skills & emotion design throughout. ● Analyse with the development team, the most appropriate technology to develop the various pieces of e-learning and the different dynamics that are foreseen in the storyboard. ● Take responsibility for the outcomes of the project. ● Adjust the product to the client's expectations and demands through ongoing feedback loops to clarify the pedagogical needs in different learning stages.

Related to the EID Global Competence framework:
Use iterative and reflexive processes | Make things desirable, convenient and enjoyable | Explore different points of view to create new meaning | Use content development processes | Rely on authoring software | Adopt a publishing strategy | Provide multimedia content | Design Web-based courses | Realize the problem in cooperation with Others.

COMPETENCE UNIT 5 - ID IMPLEMENTATION — Workload: 10h

OBJECTIVES
In this unit, learners will:
● Prepare the learning environment and engagement approach for the instructional process;
● Organise the instruction materials and set up the necessary conditions for both the teacher and the learners;
● Review the quality of the instructional materials and the learning setup internally and involving the client.

LEARNING OUTCOMES

Knowledge	Skills	Autonomy & Responsibility

Scientific and empirical knowledge and skills in the areas of Instructional Design and contemporary views on learning and instruction.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.
Scientific and Empirical knowledge: • Learning management systems. • Uploading sequences. • Quality check.	Theoretical and Practical knowledge: • Make a checklist to ensure that all the needs and requirements defined for the project are implemented. • Test products individually to assure they function correctly. • Perform validation tests to assure the LMS is reading the products correctly. • Debug potential mal-functions.	Theoretical and Practical knowledge: • Select the learning management systems to upload the products. • Assess the sequence for uploading the products in the LMS. • Upload communication protocols for tracking learning-related activity into LMS. • Report (to IT team) if malfunctions are identified.	Behaviour and attitudes: • Supervise the implementation of ID solutions, related to specific training, by the ID team.

Related to the EID Global Competence framework:
Provide written content | Apply critical thinking | Adapt to circumstances with resilience and focus on objectives | Provide choice and flexibility | Use Circular Design processes | Rely on standards for Web-based E-Learning | Apply ICT terminology | Identify and explain the main sustainability values.

COMPETENCE UNIT 6 - ID EVALUATION — Workload: 11h

OBJECTIVES
In this unit, learners will:
- Define and apply quality criteria for all the ID stages;
- Prepare evaluation tools that assess the quality of the learner experience of both teachers and learners;
- Review the evaluation outcomes to improve and modify the ID processes.

LEARNING OUTCOMES

Knowledge	Skills	Autonomy & Responsibility

Scientific and empirical knowledge and skills in the areas of Instructional Design and contemporary views on learning and instruction.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.
Scientific and Empirical knowledge: • Quality criteria for ID stages. • External validation stage. • Training Pilots. • Key Performance Indicators. • Evaluation Tools. • Project Report.	Theoretical and Practical knowledge: • Define and apply quality criteria for all the ID stages. • Organize a validation stage to test the course by an Instructional Designer external to the project. • Revise the project to make the adjustments requested by the external validation. • Implement pilots to test the project against the needs and requirements defined for that project. • Develop an evaluation tool for the client implementing the training to report on Key Performance Indicators. • Interpret the data from the questionnaires and report based on that data. • Report on main obstacles and lessons learned through the project.	Theoretical and Practical knowledge: • Operate software for quality assurance assisting the Quality Assurance team.	Behaviour and attitudes: • Take responsibility for the quality evaluation of the project. • Manage multiple target groups and stakeholders to achieve overall satisfaction.

Related to the EID Global Competence framework: Adapt to circumstances with resilience and focus on objectives | Learn through experience | Apply learning outcomes approach| Identify training needs | Identify and explain the main sustainability values.

COMPETENCE UNIT 7 – PROJECT MANAGEMENT Workload: 8h

OBJECTIVES
In this unit, learners will:
- Become aware of the importance of adopting a systematic approach to effective project management for the use of the ID project;
- Know the different areas involved in project management (scope, time, budget and cost, HR, risk and communication) and the impacts of mismanagement in the ID project;
- Be introduced to the main processes, techniques and tools to support in the management of their projects.

LEARNING OUTCOMES

Knowledge	Skills		Autonomy & Responsibility
Scientific and empirical knowledge and skills in the areas of Instructional Design and contemporary views on learning and instruction.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.
Scientific and Empiric knowledge: • Project Management methodology • Scope Management • Time Management • Budgeting and Cost Management • Human Resources Management • Communications Management • Risk Management	Theoretical and Practical knowledge: • Identify the management methodology to apply in the project. • Identify the scope of the project by discussing with the client and/or other relevant stakeholders (eg. Teachers) the needs and requirements of the project. • Perform a context analysis based on the needs and requirements identified by the stakeholders and target groups. • Plan the tasks and deadlines to share with the team and with the stakeholders for approval. • Monitorize the project tasks and deadlines to assure compliance. • Define the overall budget and budget per task and communicate it to the stakeholders. • Manage the project costs to ensure budget compliance. • Manage the project team and report to the unit coordinator. • Communicate frequently with the stakeholders and team about the project status. • Implement risk management tools and act on identified risks. • Managing multi-step design paths to address the problems in authentic tasks.	Theoretical and Practical knowledge: • Operate project management software. • Select and use multiple channels of communication with the different stakeholders of the project. • Select and use technology for problem-solving and design process.	Behaviour and attitudes: • Adapt to circumstances with resilience and focus on objectives by seeing challenges as a way to learn and apply other/new approaches. • Manage team and stakeholders' expectations about the project. • Choose communication styles to apply with different stakeholders. • Incorporate sustainability values across the project management. • Keep the project team motivated and focused on achieving the project scope, objectives and timings • Design with holistic project management perspectives in taking account of multi-stakeholders' perspectives, activity models, and improvement of problem situation

Related to the EID Global Competence framework: Use concepts and fundamentals of project management | Apply critical thinking | Create a plan of action | Know how to master materials | Work with Others | Manage content development projects | Understand and adapt to norms, relationships and formality | Interact with Others across differences | Respond to a given local, global or intercultural issue or situation | Identify and explain the main sustainability values.

2.7. EID Global Competence framework

Scientific and Empirical Knowledge and Key Skills	Scientific and Empirical Knowledge	Demonstrate expertise in the areas of Instructional Design and contemporary views on learning and instruction.
		Identify customer requirements
		Identify training needs

		Rely on Instructional Design models
		Apply learning outcomes approach
	Key Skills	Translate requirement concepts into content
		Apply teaching strategies
		Structure Information
		Provide written content
		Use concepts and fundamentals of project management
Design Skills and Mindsets	Problem Solving	Apply critical thinking
		Adapt to circumstances with resilience and focus on objectives
		Use iterative and reflexive processes
		Realize the problem in cooperation with Others
		Create a plan of action
		Develop creative and purposeful ideas seeking innovation
		Integrate a systematized thinking while exploring solutions
	Practical Skills	Think through making
		Make things desirable, convenient and enjoyable
		Use Circular Design processes
		Provide choice and flexibility
		Know how to mastery materials
	Human-Centred	Rely on Inclusive Design
		Make connections with other ideas
		Explore different points of view to create new meaning
		Work with Others
		Learn through experience
ICT Knowledge and Skills	ICT Knowledge	Rely on authoring software
		Rely on learning management systems
		Rely on standards for Web-based E-Learning
		Use content development processes
		Adopt a publishing strategy
		Develop content with safety
	ICT Skills	Design Web-based courses
		Apply ICT terminology

		Identify ICT user needs
		Provide multimedia content
		Use different communication channels
		Apply tools for content development
		Manage content development projects
		Manage content metadata
Multifaceted Cognitive, Socio-emotional and Civic Skills	Local, Global and Cultural Significance	Combine knowledge about the world and critical reasoning
		Combine interdisciplinary knowledge and modes of thinking
	Perspectives and World Views of Others	Recognize different cultural perspectives
		Respect Others' realities and their emotions
	Interactions Across Cultures	Understand and adapt to norms, relationships and formality
		Interact with Others across differences
	Collective Well-being	Respond to a given local, global or intercultural issue or situation
	Embodying sustainability values	Identify and explain the main sustainability values

3. EID Professional Persona

Professional Profile	The European Instructional Designer (EID) is an expert responsible for designing, developing, and delivering learning products and experiences, as well as the coordinator of the Instructional Systems Design ISD process. These learning products include online courses, instructional manuals, video tutorials, learning simulations, among other digital learning experiences. The EID Global Competence, although relevant for the field of vocational education training (VET), has a strong potential to be transferred to all other fields of education (school education, higher education, adult education), causing a profound impact on the quality of the digital education processes. At the European level, the profession of Instructional Designer is fundamental for providing high-quality digital learning resources, which were lacking during the lock-downs of the past COVID-19 pandemic situation, contributing to the Digital Education Action Plan 2021-2027. The European Union political guidelines and strategy for digital and green transition are also core factors within this profession. The EID professional profile corresponds to the EQF Level 6 of learning outcomes.			
Prerequisites (or other relevant fields)	Educational Sciences	Design	Communication Sciences	
Global Competences	Scientific and empirical knowledge, and skills, in the areas of Instructional Design, Cognitive Psychology and Psychology of Learning.	Design skills and mindsets for problem-solving and Human-centred design.	ICT knowledge and skills for developing digital learning experiences.	Multifaceted cognitive, socio-emotional and civic skills, towards intercultural development and collective well-being.

Quote	*Tell me and I forget,* *teach me and I may remember,* *involve me and I learn.* Xun Kuang Chinese Confucian philosopher (312-230 BC)

4. EID Journey Map

Framework						
	ADDIE	Analyse	Design	Develop	Implement	Evaluate
	Design Thinking	Empathise	Define	Ideate	Prototype	Test
Scientific and Empirical Knowledge and Key Skills	Scientific and Empirical Knowledge	Demonstrate expertise in the areas of Instructional Design and contemporary views on learning and instruction.				
		Identify customer requirements				
		Identify training needs				
			Rely on Instructional Design models			
			Apply learning outcomes approach			
	Key Skills	Translate requirement concepts into content				
		Apply teaching strategies				
		Structure information				
				Provide written content		
		Use concepts and fundamentals of project management				
Design Skills and Mindsets	Problem Solving	Apply critical thinking				
		Adapt to circumstances with resilience and focus on objectives				
		Use iterative and reflexive processes				
		Realize the problem in cooperation with Others				
		Create a plan of action				
			Develop creative and purposeful ideas seeking innovation			

Framework	**ADDIE**	Analyse	Design	Develop	Implement	Evaluate
	Design Thinking	Empathise	Define	Ideate	Prototype	Test
			Integrate a systematized thinking while exploring solutions			
	Practical Skills	Think through making				
		Make things useful, desirable, convenient and enjoyable				
		Use Circular Design processes				
			Provide choice and flexibility			
			Know how to mastery materials			
	Humanity Centred	Rely on Inclusive Design (focus on positive experiences)				
		Make connections with other ideas				
		Explore different points of view to create new meaning				
		Work with Others				
		Learn through experience				
ICT Knowledge and Skills	ICT Knowledge				Rely on authoring software	
					Rely on Learning Management Systems	
					Rely on standards for Web-based E-Learning	
					Use content development processes	
					Adopt a publishing strategy	
		Develop content with safety				
	ICT Skills	Design Web-based Courses				
		Apply ICT terminology				
		Identify ICT user needs				
				Provide multimedia content		
				Use different communication channels		
				Apply tools for content development		
					Manage content development projects	
					Manage Content Metadata	

Framework	**ADDIE**	Analyse	Design	Develop	Implement	Evaluate
	Design Thinking	Empathise	Define	Ideate	Prototype	Test
Multifaceted Cognitive, Socio-emotional and Civic Skills	Local, Global and Cultural Significance	Combine knowledge about the world and critical reasoning				
		Combine interdisciplinary knowledge and modes of thinking				
	Perspectives and World Views of Others	Recognize different cultural perspectives				
		Respect Others' realities and their emotions				
	Interactions Across Cultures	Understand and adapt to norms, relationships and formality				
		Interact with Others across differences				
	Collective Well-being	Respond to a given local, global or intercultural issue or situation				
	Embodying sustainability values	Identify and explain the main sustainability values				

5. EID Professional Profile

The pre-requirements to enrol in the EID Qualification are to have completed level 6 EQF in the field of Educational Sciences, Design, Communication Sciences or equivalent.

The European Instructional Designer will be able to:

1. Apply the foundations for ID 101 by:

1.1. Acknowledging the recursive analysis problems and needs as part of the iterative instructional design process;

1.2. Drawing on theories of learning and instructional design to identify suitable instructional practices;

1.3. Reason and justify the alignment between instructional situation and instructional solution with focus on learning objectives in instructional design system;

1.4. Organizing ID models for designing instruction with broad and heuristic usage based on the key elements in the ID models;

1.5. Reason and justify the alignment between problem, instructional solutions and selected ID models;

1.6. Using understandable and shareable design language providing effective multi-stakeholders (e.g., customers, users, designers) communication;

1.7. Constructing appropriate instructional technology integration solutions to given problem context;

1.8. Recognizing the roles and functions of technology in instructional design;

1.9. Developing awareness of the diverse interactions within a learning environment and develop skills of interdisciplinary design for developing functional instruction;

1.10. Developing awareness of multiple perspectives on culture, norms, formality, and needs in the local and global context through interdisciplinary collaborations among multiple stakeholders;

1.11. Recognize contributions of life-long learning in local and global ID professional learning communities to developing as reflective problem solver and to change agency in the community.

2. Apply Learning Methodologies by:

2.1. Identifying the impact of learner persona on the learning process and learning experience and use it to inform the instructional design decision;

2.2. Utilizing taxonomy of learning to analyze the learning content, learning process and expected learning outcomes based on learning theories;

2.3. Analyzing the learning process in terms of perspectives on learning and instructional design theories in relation to major learning outcomes;

2.4. Developing constructive alignment among learning needs and objectives, instructional methods, and assessments with informative feedback in instructional solutions;

2.5. Adapting instructional solution in compliance with given instructional situation (learning needs, target/potential learner persona, learning environment, and resource constraints);

2.5. Identifying relationship between instructional solutions, expected instructional design tasks, and the development of learning objects;

2.6. Identifying and integrate suitable and existing technology for rich-media learning and instruction (Presentation tools, graphics and infographics tools, video tools, interactive learning tools, etc.);

2.7. Reflecting on the previous experience of using technology and use technology to analyze and visualize instructional situation and diverse ideas and design tasks for instructional solutions;

2.8. Using inclusive learning approach to design instructional scenarios that respond to the local, global, or intercultural realities;

2.9. Reflecting on the decision making in the problem-solving and collaboration process from intercultural and interdisciplinary perspectives.

3. Implement design considerations by:

3.1. Anticipating Data Security needs for the learning experience (RGPD, etc);

3.2. Analysing and arranging main ideas to create a storyboard, based on the selected instructional theory for the learning experience;

3.3. Developing the storyboard by creating interactive interfaces, taking into consideration teaching strategies in designing the learning interaction;

3.4. Implementing an inclusive design approach when designing the storyboard and developing UX;

3.5. Illustrating the base for storytelling;

3.6. Including an indication of dynamics, sound design and voice references in the storyboard;

3.7. Developing the scripts for the development of audio and videos, if included in the course;

3.8. Preparing the templates to collect the contents, according to the storyboard;

3.9. Writing notes for the developers' team to indicate specificities;

3.10. Sorting the different programs to use in the development of the storyboard and scenarios;

3.11. Defining, together with the development team, the final format of the various pieces of eLearning to be built (e.g. interactive screens, videos, pedagogical games, etc);

3.12. Developing content with safety;

3.13. Using technology for organising the materials' references;

3.14. Leading a discussion with team members to achieve a common understanding of the project and the instructional solution;

3.15. Taking responsibility for the outcomes of the project;

3.16. Adjusting the product to the client's expectations and demands through ongoing feedback loops to clarify the pedagogical needs in different learning stages.

4. Develop Instructional Design by:

4.1. Developing the scenarios for the learning experience that correlate with the storyboard, by considering cognitive engagement, affective response and social interaction;

4.2. Identifying the interactive and non-interactive processes of the training;

4.3. Constructing learning products by applying UX concepts, aligning with the instructional functions;

4.4. Predicting UI obstacles and presenting solutions to implement the training;

4.5. Passing development work to the development team (IT/coding) by providing all the necessary information for development;

4.6. Selecting an authoring software for developing prototypes;

4.7. Performing video, audio and image editing to apply to learning products;

4.8. Compressing videos to be uploaded in LMSs;

4.9. Generating communication protocols for tracking learning-related activity;

4.10. Leading a discussion with team members to achieve a common understanding of the project and the instructional solution;

4.11. Applying empathy skills & emotion design throughout;

4.12. Analysing with the development team, the most appropriate technology to develop the various pieces of e-learning and the different dynamics that are foreseen in the storyboard;

4.13. Taking responsibility for the outcomes of the project;

4.14. Adjusting the product to the client's expectations and demands through ongoing feedback loops to clarify the pedagogical needs in different learning stages.

5. Implement Instructional Design by:

5.1. Making a checklist to ensure that all the needs and requirements defined for the project are implemented;

5.2. Testing products individually to assure they function correctly;

5.3. Performing validation tests to assure the LMS is reading the products correctly;

5.4. Debugging potential mal-functions;

5.5. Selecting the learning management systems to upload the products;

5.6. Assessing the sequence for uploading the products in the LMS;

5.7. Uploading communication protocols for tracking learning-related activity into LMS;

5.8. Reporting (to IT team) if malfunctions are identified;

5.9. Supervising the implementation of ID solutions, related to specific training, by the ID team.

6. Evaluate Instructional Design by:

6.1. Defining and applying quality criteria for all the ID stages;

6.2. Organizing a validation stage to test the course by an Instructional Designer external to the project;

6.3. Revising the project to make the adjustments requested by the external validation;

6.4. Implementing pilots to test the project against the needs and requirements defined for that project;

6.5. Developing an evaluation tool for the client implementing the training to report on Key Performance Indicators;

6.6. Interpreting the data from the questionnaires and reporting based on that data;

6.7. Reporting on main obstacles and lessons learned through the project;

6.8. Operating software for quality assurance assisting the Quality Assurance team;

6.9. Taking responsibility for the quality evaluation of the project;

6.10. Managing multiple target groups and stakeholders to achieve overall satisfaction.

7. Manage projects by:

7.1. Identifying the management methodology to apply in the project;

7.2. Identifying the scope of the project by discussing with the client and/or other relevant stakeholders (eg. Teachers) the needs and requirements of the project;

7.3. Performing a context analysis based on the needs and requirements identified by the stakeholders and target groups;

7.4. Planning the tasks and deadlines to share with the team and with the stakeholders for approval;

7.5. Monitoring the project tasks and deadlines to assure compliance;

7.6. Defining the overall budget and budget per task and communicating it to the stakeholders;

7.7. Managing the project costs to ensure budget compliance;

7.8. Managing the project team and reporting to the unit coordinator;

7.9. Communicating frequently with the stakeholders and team about the project status;

7.10. Implementing risk management tools and acting on identified risks;

7.11. Managing multi-step design paths to address the problems in authentic tasks;

7.12. Operating project management software;

7.13. Selecting and using multiple channels of communication with the different stakeholders of the project;

7.14. Selecting and using technology for problem-solving and design process;

7.15. Adapting to circumstances with resilience and focus on objectives by seeing challenges as a way to learn and applying other/new approaches;

7.16. Managing team and stakeholders' expectations about the project;

7.17. Choosing communication styles to apply with different stakeholders;

7.18. Incorporating sustainability values across the project management;

7.19. Keeping the project team motivated and focused on achieving the project scope, objectives and timings;

7.20. Designing with holistic project management perspectives in taking account of multi-stakeholders' perspectives, activity models, and improvement of problem situation.

6. Training Course Methodology

The European Instructional Designer' Qualification training course is designed for a blended learning methodology.

Theoretical training will be delivered via an asynchronous eLearning environment (LMS) complemented by an online forum and 3 Synchronous Sessions (that can be delivered online via Zoom, Teams or other platforms, or delivered face-to-face): 1) the first session at the start of the course, have the purpose to introduce learners to the eLearning platform and the overall training methodology, the learning outcomes, and the evaluation procedures; 2) a session in the middle of the training course after completion of CU3 and at the beginning of CU4, to support learners, monitor progress and provide mentoring; and 3) a final session after CU7 is completed, where the learners are going to submit the 360° project assignments and ePortfolios for evaluation.

The theoretical component presented in each Competence Unit (CU) will be delivered through several training materials, naming: a) responsive eLearning screens; b) downloadable info sheets (1 per CU) with the purpose of giving an overview of the extended theoretical content; c) Expert Videos (1 per CU) showing an expert explaining a specific topic/content of the CU knowledge field; d) an interactive diagram portraying the relations between the Competence Units.

Practical training is delivered via a project learning approach, where learners will be given practical exercises to develop and upload to their ePortfolio. The practical exercises will promote self-study complemented by tutorship and peer learning through the online forum.

Throughout the course, learners will have access to an Artificial intelligence tutor bot that will be available anytime to support them and answer their questions.

Overall training contact hours are approximately 14 hours, and the expected workload is 108 hours.

7. Training Course Assessment

The evaluation methodology is based on a complementary approach based on:

- Theoretical assessment performed in the LMS by a multiple-choice question test (10 questions to be answered from a pool of 20 questions);
- Practical assessment performed via submission of a 360° project assignment (learners can select 1 exercise from a pool of 4). 360° project assignments are practical complex assessments where learners demonstrate their Instructional Design skills ;
- Practical assessment performed via submission of the Portfolio (ePortfolio is where learners compile the formative exercises performed during the course). For learners to pass successfully and achieve the European Instructional Design Qualification, they should achieve 75% grade. Assessment is valued as: Theoretical Assessment 50%, 360° project assignments 35% and ePortfolio 15%.

Conclusion

The European Instructional Designer (EID) professional profile presented in this document results from a set of determinant factors. First, it is essential to consider the existing knowledge in Instructional Design (ID), which originated in the early twentieth century in educational psychology and was later influenced by general systems theory in the middle of the same century. Subsequently, ID was informed by other areas of knowledge – psychology, communication, design, information technology – becoming an interdisciplinary territory, welcoming specialists from different areas.

It is essential to mention the ADDIE framework (Analyse, Design, Develop, Implement, and Evaluate) for developing a given ID project, which represents the basis from which the notion of the instructional designer was expanded, to create the EID professional profile. In parallel, it is proposed to cross the principles that characterise the ADDIE systematisation process with the Design Thinking methodology (Empathise, Define, Ideate, Prototype, and Test), whose primary focus is the cognitive process used by designers in the human-centred design approach. The synergy between both processes allows deepening the existing knowledge in ID, creating an innovative framework for the EID.

The Instructional Design initial phase is intended to map and understand potential problems caused by the lack of instruction. Understanding the socio-cultural and educational context through an empathetic approach is fundamental. The data collected in this phase must be processed to allow a straightforward reading of the identified instructional needs and all implied for good planning and systematisation. This is followed by the phase of design and definition, which focuses on determining the instruction performance and evaluation process based on the predefined main

problem. The ideation and development of educational content come right after to enable the best possible learning experience. The next step, dedicated to the instruction implementation, begins with an experimental approach, that is, prototyping the instructional service to prepare the context where the learning experience takes place. Finally, in the testing and evaluation phase of the entire instructional process, its resources and methods, it is possible to test the learning experience, which enables necessary corrections and improvements. This last phase occurs iteratively and is repeated until a quality instructional model can be implemented.

Based on the interdisciplinary sphere of ID, as well as the ADDIE and Design Thinking processes, the logic used for the creation of an EID professional profile is based on the inclusion and adaptation of a set of competency frameworks, with proven relevance in the European Community, to emphasise the holistic nature of the professional profile in question. The primary reference is the document entitled (1) *European Skills/Competences, qualifications, and Occupations (ESCO) for the Instructional Designer*, followed by other relevant references: (2) *Design perspectives: design skills strategy*, elaborated by the Design Council, (3) *OECD PISA global competence framework* for students in an interconnected world, (4) EntreComp: The Entrepreneurship Competence Framework, by the European Commission, (5) DigComp 2.0: The Digital Competence Framework for Citizens, by the European Commission, (6) GreenComp: The European sustainability competence framework, by the European Commission.

In addition to scientific knowledge, the necessary competencies are defined, namely the specific personal and social skills that enable a quality performance. With a transversal nature, it is also important to mention the innovative character, responsibility, and autonomy that the EID must demonstrate to implement and manage professional situations of great

complexity, in particular the creation of educational experiences of unparalleled quality and the mission of guiding the professional development of certain individuals and groups.

Considering the mentioned framework, the EID professional profile is presented based on a structure defined by four essential issues, which in turn include different types of knowledge and specific competencies: (1) Scientific and Empirical Knowledge and Key Skills, (2) Design Skills and Mindsets, (3) ICT Knowledge and Skills, (4) Multifaceted Cognitive, Socio-emotional and Civic Skills.

This competencies framework, in its turn, defines the set of Learning Outcomes that the European Instructional Designer needs to be an expert, namely: (1) Apply the foundations for ID; (2) Apply Learning Methodologies; (3) Implement design considerations; (4) Develop the ID; (5) Implement the ID; (6) Evaluate the ID; and (7) Manage projects.

The EID profile results from a holistic learning experience, in which the qualified professional gathers the necessary scientific and empirical knowledge, which will allow him/her to intuit, reflect, design, and implement specific instructional actions in the context of different socio-cultural dynamics, involving students and their contexts.

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Appendix

CU1	
Problem and context analysis	Needs of functional diversity target group, Problem analysis, Context analysis
Approaches to design	Re-design, User-centered design, Co-design, Radical design, Critical design, Universal design
Design models	Five steps design process (Empathize-Define-Ideate-Prototype-Test), Action-centric model, Audience-centered model, Content-centered model
ID models for designing instruction	ADDIE model, The SAM model, Backward design model, Action mapping, The 4C/ID model
Design principles	Mayer's 12 principles of multimedia learning, Dieter Ram's 10 design principles, Universal design principle
Design communication	Design language, Copywrite (storytelling)
Instructional design theories	Merrill's principles of Instruction, Universal instructional design, Gagne's nice events of instruction, Elaboration Theory Cognitive apprentice, Cognitive architecture and instructional design, Bloom's Taxonomy of learning objectives, Robert Gagne's taxonomy of learning
Learning theories	Behaviorism, Cognitivism (Cognitive load theory, Skill acquisition, Schema theory), Social constructivism (Zone of Proximal Development, Scaffolding, Situated learning), Connectivism
Instructional variables	Learning content analysis, Learning objectives and outcomes, Student persona and learning experience, Instructional strategies, Pedagogical approaches, Learning methods, Instructional technologies, Assessment and feedback
Instructional technology integration	Substitution, Augmentation, Modification, and Redefinition model (SAMR), Technology integration model (TIM), Technological, pedagogical and content knowledge (TPACK), Technology integration planning model (TIP)
Technology-assisted in design process	E-Learning authoring tools, Management tool, Content and materials design tool, Communication and collaboration tool

CU2

Learner persona	Learning and working strategies, Learning orientations, Motivation and interest, Education background, Skill level, Demographics, Social cultural background
Learning content analysis	Knowledge analysis (factual knowledge, conceptual knowledge, procedural knowledge, metacognitive knowledge), Skill and competence analysis, Performance task analysis, Situated context analysis, Problem-solution analysis
Learning process	Behaviorist process (Behavior and performance, Repeated reinforcement and practice), Cognitivist process (knowledge construction, Critical reflection, Deliberate practice, Constructive feedback), Social constructivist process (Social interaction, Language use, Community of practice, Authentic real-world learning), Connectives process (Value judgement, Capacity to know, Nurture and maintain connections, Decision-making)
Pedagogical approaches	Content focus (Mastery learning, Direct teaching, Meaningful learning), Interactivity and collaboration focus (Collaborative learning, Narrative learning, Dialogic guidance), Experiential focus (Discovery-Based Learning, Inquiry-Based Learning, Project-based learning, Case studies, Game-based learning, Problem-based learning, Learning by doing, Simulation-based learning, Integrative learning, Phenomenon-based learning, Design-based learning), Reflective/critical focus (Critical pedagogy, Reflective practice)
Learning/Training method	On-the-job training, Coaching/mentoring, Mlearning, Blearning, Micro-learning, Interactive multimedia (AR/VR, simulation)
Instructional strategies	ICAP model for engagement and interaction, ARCS model of motivation, Multi-media learning, Learning support (social support, technical support), Self-regulated learning support, Adaptive teaching strategies
Instructional design task	Learning materials and environment design, Instructional technology integration, Learning activities and sequence, Storytelling, Design project management
Assessment and Feedback	Content units, Methods and response formats, Moderator of performance, Cognitive, instructional, and inferential validity, Feedback models

CU3	
Arrange main ideas	Primary, secondary, and specific/extra Information.
Design principles	Balance, space, configuration, scale, proportion, hierarchy, pattern, dynamic, movement, rhythm, function, formats and types of images.
Development of the storyboard	Adobe photoshop, adobe illustrator, Canva, etc

CU4	
Authoring software	Articulate storyline 360, Articulate rise 360, Adobe Captive, Elucidat, iSpring, Camtasia, Composica, Knowbly.
Communications protocols	.Scorm, xAPI, etc...

CU5	
Criteria defined for the project	Criteria related to the objectives, pedagogical approach, products, design, UX, etc.
Learning management	360Learning, LearnUpon LMS, Docebo, TalentLMS, Cornerstone Learning...

CU6	
Evaluation tool	Interview, questionnaire, focus group, etc.
ID stages	Methodologies, design considerations, development, implementation, evaluation, project management.
Key Performance Indicators	Short, medium and long impacts, ROI, success rates, completion rates, drop out rates, etc...
Quality criteria	Accuracy and visual appeal, alignment to standards and depth of knowledge, usability and support, and engagement and ability to meet student needs.

CU7	
Scope	Training needs, project requirements, target-groups, personna, etc

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