D2.4 "Pilot activity" to activate potential learning professionals within the partner institutions

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EXECUTIVE SUMMARY

This report presents Deliverable D2.4 of the BoostEuroTeQ work package 2 (WP 2) "Define The EuroTeQ Learning Professional". It aims at presenting the results of "pilot activities" to activate potential learning professionals within the EuroTeQ partner institutions (TUM, TalTech, CTU, DTU, TU/e, L'X).

D2.4 is the final deliverable in WP2 and aims at the execution and implementation of the frameworks and concepts developed in D2.1-D2.3. In these deliverables, the role of a learning professional as specialist in the scientific upskilling of engineers was examined in detail. In this process, we found that specialized-methodological and social-communicational competences enable learning professionals to develop effective educational courses and programs to facilitate lifelong learning of professional engineers.

To support the competence acquisition, the training program developed in D2.3 was refined, implemented, and comprehensively evaluated in D2.4. For this purpose, the course was designed in a hybrid learning environment accompanying the participants over a period of three months. This included synchronous online events, as well as self-paced online learning elements and an on-site meeting in Munich. The course content was tailored to adult pedagogy and instructional design, focusing on competence definition and evaluation. In an application task, the participants demonstrated their ability to design a concept for an upskilling program.

This approach attracted nine participants to the kick-off event, with seven from four partner universities successfully completing the program, meeting all tasks and milestones. Despite diverse backgrounds and cultural influences, each potential learning professional enriched the program with unique experiences. As a result, the program integrated different perspectives and approaches.

The pilot activities were intended to provide guidance for further development and establishment of the program. Consequently, the implementation and evaluation led to the following recommendations:

- The definition of competences is crucial when designing learning programs and represents the prerequisite for all design decisions.
- Participants require a clear communication regarding defined competences.
- Learning formats and topic areas should be aligned with the defined competences.
- On-site events facilitate networking, discussions and exchange.
- Self-learning phases support adult learners' needs for independence in time management.
- Feedback sessions should accompany self-paced learning modules.
- Best practices and examples support the participants in their learning process.
- Evaluation of learning programs should include diverse perspectives and activities over time.

Implementing the pilot activities in D2.4 offered the opportunity to identify the strengths and weaknesses of the training concept, setting a milestone for further program development.

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1. RETROSPECTIVE AND CONTEXT D2.4

The scientific research project "BoostEuroTeQ" is dedicated to fostering institutional change towards responsible research and innovation. Referring to the main dimensions of the program (see picture above), work package 2 is based on the pillar of the enablement of individuals. Its main target is to develop training concepts tailored for learning professionals (also referred to as experts for learning and professional development; in short: "Experts for L&PD"). As a result, learning professionals are qualified as specialists in the scientific upskilling of engineers and become key actors who facilitate knowledge transfer between the universities and their wider eco-system. In this context, emphasis is placed on the lifelong learning journey of European engineering professionals.

Work Package 2 comprises four components: First, an analysis of the current state of learning professionals at the EuroTeQ universities was conducted (D2.1). Subsequently, this analysis has led to developing a qualification framework for the EuroTeQ learning professional (D2.2). This framework figures out that core competences for learning professionals are considered mainly in the fields of specialized-methodological competences (e.g., the assessment of professionals' developmental/learning needs, didactics, and adult pedagogy and the use of educational technologies) and social-communicational competences (e.g., audience-tailored communication and interdisciplinary cooperation). These findings resulted in a concept for training and attracting the EuroTeQ learning professional (D2.3). This ensuing deliverable (D2.4) describes pilot activities derived from the training concept outlined in D2.3. Consequently, D2.4 serves as the practical framework and implementation of the concept paper described in D2.3.

2. FRAMEWORK

As described in D2.3, the pilot training program encompassed an online learning environment via the " Moodle " learning platform and an on-site Bootcamp. These phases were implemented in the structure of a so-called hybrid learning landscape (HLL). These HLLs are environments in which digital possibilities are used so that conventional classroom teaching can be exceeded in terms of space and time. The primary objective of the HLL for the target audience was to enhance their competences as learning professionals, enabling them to bridge the gap between industry and academia effectively. Both aspects of competences (special-methodological competences and social-communicational competences) were included in the pilot activities. However, the pilot activities put an emphasis to develop **specialized-methodological competences** in adult pedagogy, didactics, and instructional design. This led to a shift of the focus of the on-site event compared to the concept in D2.3. This change is justified by the fact that the originally planned on-site meeting did not receive much interest from the participants. During the outreach activities, only one potential learning professional was interested in participating in the on-site event as it was planned in D2.3. As a result, the originally planned event took place without the learning professionals, but could be recorded via video and therefore provided to the target group: In this approach, the participants were supported in the acquisition of **social-communicational competences.** These were applied at the new planned on-site event by giving an oral presentation. This new planned on-site event was adjusted to fit the schedules of the participants and offered the opportunity to delve deeper into the topics covered during the online phases. With this approach, both phases of the learning program – online and on-site – were aligned and complemented. These changes were successful, reflected in the number of participants. In conclusion, the pilot activities focused on specialized-methodological competences. To pursue the acquisition of these competences, they were refined and structured in a curricular matrix (see below.)

Curricular Matrix				
Index	**Professional Action** **The learners…**	**Knowledge**		
		Factual	**Process**	**Conceptual**

1	… develop competence-orientated learning objectives	Definitions and Structure of:
		▪ Professional actions
		▪ Learning actions
		▪ Types of knowledge
		  ▪ Factual Knowledge
		  ▪ Process Knowledge
		  ▪ Conceptual Knowledge
		▪ Structure of the Curricular Matrix
			▪ Identification of professional actions and knowledge aspects
			▪ Distinguish professional actions from knowledge aspects
			▪ Determination of factual, process and conceptual knowledge
			▪ Creation of Curricular matrix
				▪ Competence-orientation

2	… design a concept of an upskilling program	▪ Prerequisites:
		  ▪ Vocational context
		  ▪ Target group
		  ▪ Feasibility in terms of locations, time and other resources
			▪ Design of training concepts
			▪ Setting of learning objectives in contexts
			▪ Analysis of target group (needs and prerequisites)
			▪ Analysis of settings (location & time)
			▪ Assignment from learning objectives to learning sequences
				▪ Instructional Design
				▪ Adult pedagogy

3	… develop an outline of a learning format with online, on-site and hybrid elements	▪ On-site:
		  ▪ Instruction in classroom settings
		▪ Online:
		  ▪ Course structure
		  ▪ Digital features of the learning management system
			▪ Distinguish between knowledge- and action-related activities
			▪ Assign learning sequences to formats
			▪ Develop instruction and action-related activities
			▪ Develop course / necessary media
				▪ Learning formats
				▪ Hybrid learning landscapes

The table above lists all competences to be acquired in the pilot activities. The idea behind is that learning objectives must integrate all aspects that characterize competences. Competence enables a specific professional action: performance. By focusing on the competence area of professional-methodical competences, only specific knowledge aspects enable one to solve professional tasks and, thus, concrete actions. Within this context, each action is related to corresponding aspects of knowledge. According to this competence approach for technical domains, the complementary knowledge aspects of professional-methodical competences are factual knowledge, knowledge of processes, and conceptual knowledge. Phrases including cognitive developments, such as *learners understand* o*r know*, do not describe an observable behavior. Phrases that only contain learning actions ignore the aspects of knowledge that are necessary to acquire certain competences. So, both aspects are necessary and listed in the curricular matrix.

Out of this matrix, the following topics for the pilot activities were identified in order to acquire the necessary competences:

- Basics of adult pedagogy, didactics, and instructional design
- Basic principles of learner-centered training concepts
- Competence-oriented learning goals for the own subject domain
- On-site vs. hybrid vs. digital learning formats
- Link between learning goals and learning formats
- Evaluation

The matrix provides an overview of the knowledge aspects participants were required to engage with, as well as the professional actions they should perform. As such, two key elements in the pilot activities were crucial: the topic areas, encompassing the knowledge aspects, and the accompanying application tasks, providing insights into the professional actions required. Both aspects were reflected in the development of the hybrid learning landscape.

3. PROGRAM PARTICIPANTS AND ACQUISITION

The acquisition of participants began by reaching out to multipliers at the partner universities, asking them to activate potential learning professionals within their institutions (DTU, CTU, L'X, TU/e, TalTech). With this approach, nine participants from four universities (DTU, TalTech, TU/e & TUM) could be recruited for the pilot program and started with the kick-off event. One participant dropped out after the kick-off event, and one dropped out after the on-site event. Seven participants completed the program and fulfilled all the required milestones and tasks. These participants have brought diverse backgrounds and cultural implications: While some participants work in engineering domains (e.g., materials technology, economics) others are contributing in management positions or in designing and managing programs for lifelong learning courses. Beyond these diverse settings, all participants are involved in the field of adult pedagogy – either in teaching, research or management. The outreach activities showed, that individuals working in different areas could be activated for the learning professional program. All participants work as bridge builder between academia and industry each contributing unique perspectives and experiences. The concept of the learning professional program in the BoostEuroTeQ creates the opportunity to unify these different approaches and create synergies between the participants. With this approach, learning and professional development could be aligned across the partner universities, establishing a common foundation.

4. PROGRAM OVERVIEW

In a hybrid learning landscape, the learning environment can be seen as a learning space (in terms of content, didactic methodology, and structure) in which learning contents are made available and applied to the concrete challenges of professionals. Hybrid learning landscapes consist of the following elements:

Topic areas focus on one specific topic each. Their structure is already described in detail in D2.3 and contains the following elements:

Guide: The respective learning area's content is outlined to create transparency regarding the addressed competences. The *information texts* and *explanation videos* define the main learning content. The *questions for reflection* address the central aspects of the topic application in relevant contexts. The *single-choice questions* support learners in working with the learning content presented in the readings and videos.

The **application task** forms the practical-reflective implementation space embedding the learning contents of several topic areas. In the application task, the newly gained knowledge must be transferred step by step into relevant application scenarios.

In order to demonstrate the acquisition of the competences, a concept paper constitutes the result of the application task accompanying the online learning and on-site elements.

In this approach, the participants should be able to design an instructional design process of a program. This should be presented in the form of a concept paper of 3-4 pages.

It should include:
- a description of the target group for the upskilling program (background, professional experience, skills, expected needs, and prerequisites)
- the topic of the upskilling program and an outline of the content
- a list of the competence-oriented learning goals for the upskilling program
- an outline of the learning format of the upskilling program (online vs. on-site vs. hybrid), including the reasoning for the decided format.

To give the participants structure in the process of fulfilling the application task, the task was separated into different **milestones** and connected to the evaluation model.

- M1: Presentation of concept paper draft at the on-site meeting
- M2: Formative Evaluation at the on-site meeting
- M3: Submission of the finalized concept paper
- M4: Peer review evaluation
- M5: Summative evaluation

The milestones will be explained in detail later in this document.

5. PROGRAM STRUCTURE

This chapter describes the steps of the learning program for learning professionals. The course was scheduled for a period of three months and included a workload of 28-33 hours for the participants in total.
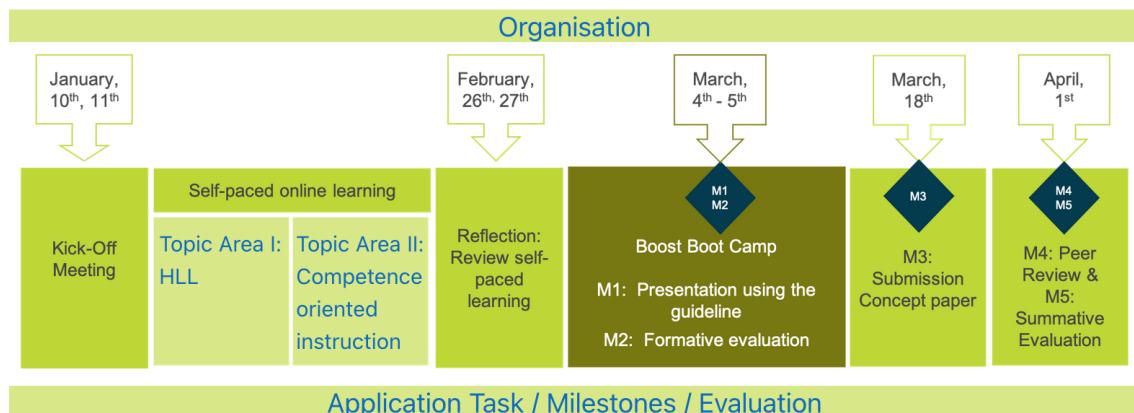
1) Kick-off

The program started with a kick-off session in January 2024 in a synchronous online session. The program was introduced, and the qualification framework was presented. The participants were enrolled in the learning management system Moodle and got an introduction to the platform.

2) Self-paced online learning

Between January and the end of February 2024, the participants learned in a self-paced way in Moodle. In Moodle, the participants had to deal with four areas:

Organisation: In this area, the participants could inform themselves about deadlines and find additional materials like presentations from the kick-off and on-site sessions.

Application task and milestones: Here the participants received more information about the application tasks and could fulfill their assignments and milestones.

Topic areas: For the implementation of pilot activities, the content was selected according to the qualification framework competences and was feasible within the planned timeframe. For this effort, synergies with the professorship of technical education for vocational teaching at TUM were used, and modules that had already been developed and reviewed were adapted to the needs of the learning professionals.

Topic area I: HLL – hybrid learning landscapes:
This topic area addresses the content aspect of "learning format". The decision of a learning format is crucial in instructional design processes and depends on the defined learning objectives and competences. The pilot activity is structured in a hybrid learning landscape, so the participants should be familiar with this approach.

**Topic area II: Competence-oriented instruction**

A core competence for aspiring learning professionals is the application of instructional design processes. The foundation of every instructional design process is the determination of competences to be acquired by the target group. Hence, participants must work with the definitions of competence and apply the competence model in practical settings. The curricular matrix shown before enables this competence-orientated approach. With the curricular matrix, the synergies with the professorship of technical education were used once more and adapted to the target group of learning professionals.

For further activities and further development of the training program, other topic areas have to be added according to the needed competences of a learning professional. To build upon this, the application task was designed in such a way that future developments are possible.

3) Reflection session

The reflection session was the next step in the learning process. In this context, the participants were given the opportunity to ask questions, especially regarding the upcoming M1 and the presentation of the concept paper draft at the on-site meeting.

4) On-site session
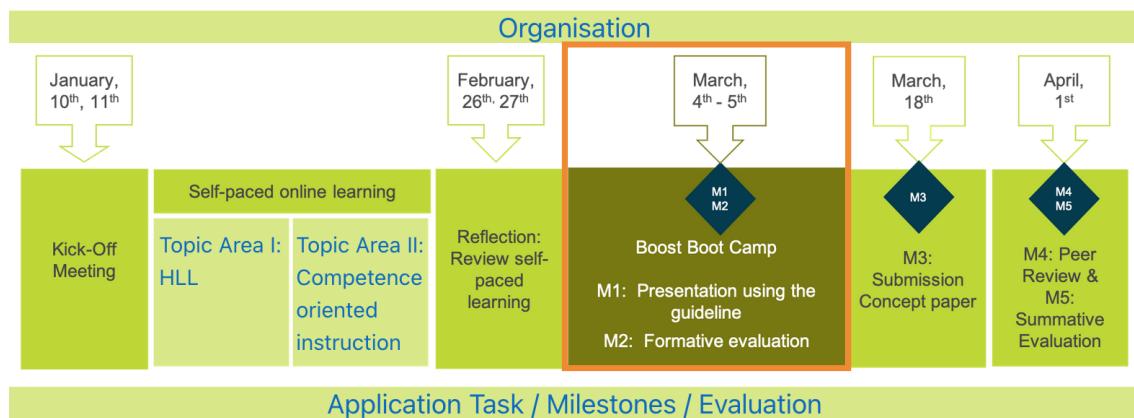
One week after the reflection session, the onsite session took place in Munich.
4 Elements in this session were of particular importance:

1) Presentation of concept paper draft by participants (M1)

The participants of the pilot activity had to prepare a presentation as a draft of the concept paper (the application task). The concept paper (to be finalized in M3) demonstrates the acquisition of specialized-methodological competences, carried out by designing an instructional design process. Milestone 1 serves as an intermediate step for that purpose in order to get structure in the process. The participants had the chance to work on the application task and got feedback that could be used for further development. In addition, all participants benefited from the topics covered by the speakers. Beyond that, the participants worked on their social-communication skills as part of the learning professional qualification framework.

2) Industry perspective

As learning professionals should build a bridge between academia and industry, they should be aware of the latest research findings as well as of the needs of the industry. As a result, the collaboration between learning professionals and industry stakeholders is indispensable.

The pilot activities realized this approach by inviting speakers from companies (industry sector) to the on-site event. These speakers presented emerging trends, technologies, and practices shaping their landscapes. By receiving input from industry professionals, learning professionals had the chance to discuss the latest learning formats to ensure that the content and methodologies they employ remain relevant and up-to-date. Furthermore, participants got in touch with how education and adult pedagogy are implemented in different companies and how these areas have been developed. As a result, the participants and the partners from the industry could discuss options for synergies, opportunities, and collaboration.

3) Competence-orientation

Designing upskilling programs always starts with the definition of competences. Therefore, competence-orientation and its application are crucial elements for aspiring learning professionals. The participants have delved deeply into the topic during the online phase. However, the reflection session showed that further input was necessary. This need was implemented by inviting an expert from TUM to discuss competence-orientation and the curricular matrix.

4) Evaluation and M2

For the qualification of learning professionals, the participants were not only expected to develop upskilling strategies, but also be able to assess the effectiveness of their developed programs. So, evaluation is an essential topic in instructional design processes. Participants were introduced to the topic as well as to evaluation types and models. Furthermore, the evaluation approach developed for this pilot activity was presented in order to give examples of practical frameworks. Milestone 2 is part of this evaluation concept in order to get formative feedback from the participants concerning this pilot activity. The evaluation concept of this program will be discussed in detail at a later stage in this document.

Below the agenda for the on-site session:

Day 1:

Time	Content
09.00 – 09.15	**Welcome**
09.15 – 09.45	**Introduction** The Boost EuroTeQ Learning Professional & its role to the ecosystem
09.50-10.30	**Milestone 1** First presentation from participant
11.00 – 12.30	**Industry perspective** Learning professionals at one selected company
13.30 – 14.30	**Competence-orientation** Competence-orientation and its application in adult pedagogy
14.30 – 15.00	**Competence-orientation** Experiences from WP3 of the BoostEuroTeQ project
15.15 – 17.15	**Milestone 1** Presentations from 3 participants

Day 2:

Time	Content
09.00 – 10.00	**Industry perspective** Disruptive technologies in adult pedagogy
10.10 – 12.30	**Milestone 1** Presentations from 4 participants
13.30-14.30	**Evaluation, Milestone 2** Definitions, models and practical frameworks
14.30 – 15.00	**Wrap up** Reflection and feedback

1) Milestones 3, 4 & 5
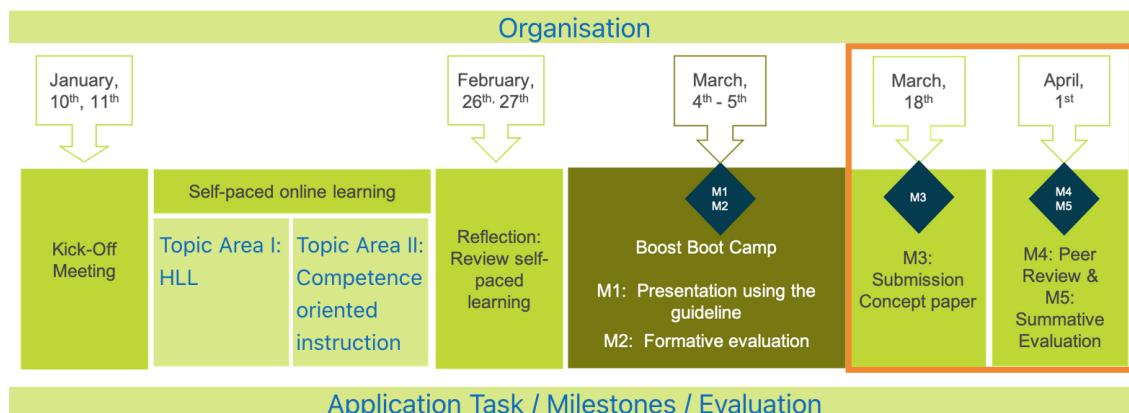
Milestone 3: Submission of the concept paper

The concept paper showed that the participants could apply the theoretical input of the topic areas and the on-site session. The participants could choose their topic according to their expertise but were also assigned to one of the following topics. These topics were part of the qualification framework, as described in D2.2:

- Assessment of professionals´ developmental/learning needs
- Market/competitor analysis regarding professional educational offers
- Use of educational technologies

With this approach, the participants were able to engage in self-study on important topics of an upskilling strategy, as not every topic area was covered in Moodle. Simultaneously, they got in touch with all other topic areas, as the concept papers and milestones were shared to each other. As a side effect, the concept papers serve as basics for the further development of the pilot activity. Milestone 3 can be seen as a further development step of milestone 1, where participants had the chance to get feedback from other participants. Simultaneously, M3 serves as the foundation for the completion of M4.

Milestone 4: Peer review

Milestone 4 served for multiple functions:

- It was part of the evaluation concept of the pilot activities (see below).
- Every participant got feedback from two peers on their own competence acquisition, thereby revealing opportunities for further development. Milestone 4 allowed team members to collaborate and offer feedback, and helped ensure the quality.
- As the participants were assigned to different topics, the peer review gave the chance for every participant to dive deeper into various fields, all important for learning professionals.

Milestone 5: Summative evaluation

Milestone 5 finalized the activities for both the application task and the conclusion of the pilot activities. The summative evaluation took place in Moodle and gave more input about further program development. More will be discussed in the next chapters.

6. EVALUATION CONCEPT

The evaluation concept was designed towards the further development of the pilot activities. Participants of the evaluation activities were the participants of the course as well as the program managers taking the role of a participant. As a result, different perspectives could be taken into account. The evaluation concept comprises several components:

According to Daniel-Ulf Ehlers (2011), the evaluation of learning programs includes five areas to be considered at three different time points:

Before:
Context: What are the needs of the target group?
Input: How is the program designed? Are we providing all the necessary resources?

During:
Process: Where do we have problems in the learning process?

After:
Product: How is the program used? Which results do we obtain?
Impact: Which effects do we have beyond the expected goals and effects?

Context and input evaluation
In the program for learning professionals, context and input were carried out in D2.1-D2.3. The insights of these deliverables were analyzed and prepared for their implementation in the form of pilot activities (D2.4). The details of the program were elaborated, starting with the transformation of the needed competences into a curricular matrix.

Process evaluation: formative evaluation (M2)
A formative evaluation took place during the realization of the activities with the aim to improve the process of the program. The formative evaluation for the pilot activities was carried out in Moodle. The participants evaluated the course structure, topic areas, application task, learning content, learning objectives, the learning process, feedback, and communication.

Product evaluation / impact evaluation: peer review evaluation (M4)
In Milestone 4, every participant reviewed two concept papers (M3) and their program partners' respective presentations (M1) as a form of program evaluation and competence assessment. The participants were able to apply the theoretical input given about evaluation. A rubric as an assessment scale was developed to guide participants in this process. Based on this approach, the participants could assess the relevant criteria and standards of their colleagues.
These criteria were developed as a rubric for assessing instructional design processes:
- Target group: Did the participant describe all relevant facts about the target audience?
- Topic: Is the topic of the learning program well described?
- Competences: Are all competences listed which the target group should acquire? Are all aspects of competences described and linked to each other?
- Content: Is the content selected according to the needs and prerequisites of the target group, and is the content derived from the described competences?
- Learning Format: Is the decision for the learning format well justified, and does it align with the content, target audience, and especially the competences?

Product evaluation / impact evaluation: summative evaluation (M5)

A summative evaluation was conducted at the end of a program as a form of product evaluation. The participants answered free text forms:

- How did I understand how to make research results usable and be able to communicate the relevance, relativity, and uncertainty of science?

   → *This question is crucial for learning professionals as they often work with scientific findings and need to translate them into educational programs or training (as revealed in the qualification framework for learning professionals).*

- How did I consider the specificities of professionals as adult learners (compared to higher education at universities aimed at university students) and the core elements of successful competence development for professionals?

   → *This question examines to what extent learners can consider the specific needs and characteristics of professionals as adult learners.*

- How did I assess the fit of the intentions and effective instructional design of on-site vs. hybrid vs. online learning environments with certain learning goals?

   → *This question aims to evaluate how well learners can assess the different learning environments according to the learning objectives and identify effective instructional design strategies for each environment.*

7. RESULTS AND OUTLOOK

This deliverable aims to realize pilot activities of the training concept developed in D2.3. The pilot activities demonstrate whether the program is designed to activate participants at the partner universities. This aim could be reached by activating eight participants from four universities within a tight timeframe. Seven participants joined every activity and completed the course, which gives a hint to the relevance of this qualification program for the partner institutions.

The further development of the concept in D2.3 led to the creation of concrete actions and materials in D2.4: a Moodle course was implemented, presentations were prepared, and results were generated. All of these outcomes can be both immediately utilized and further developed. So, the pilot activities were intended to represent both a fully developed program while also giving opportunities for further elaboration. To use these opportunities, the results from the evaluation lead to a critical assessment of different elements of the course. These are described in the next sub-chapters, including suggestions for further development.

1) Topic areas

Regarding the competency framework of a learning professional, the pilot activities were designed to focus on specialized-methodological competencies, connected with social-communication skills. Not all subcategories mentioned within this framework could be fully implemented during the pilot activities. A particular emphasis was placed on "didactics and adult pedagogy" and "evaluation" in connection with science communication. Additionally, "educational technologies" were explored through hybrid learning landscapes.

To cover more topics, participants were encouraged to work independently on other competence categories ("assessment of learning needs", "market & competitor analysis", and "use of educational technologies".) The participants positively received the provided content and topics. While the topics addressed in the pilot activities were evaluated sufficiently by the participants, feedback indicated the need to follow a coherent structure rather than addressing topics sporadically. The evaluation showed that the participants need more structure to have guidance on the learning journey.

The pilot program was intended to encompass a wide range of topics in a short time to evaluate which ones were significant to the participants while not neglecting the industry's perspective. Therefore, the feedback aligns with the program's planning. However, in the next stage of development, a format should be chosen that aligns the topic areas more with each other. The definition of learning objectives/competences was identified as a key element in achieving this coherence. As a result, the required subject areas and learning formats can be derived from the competences or learning objectives.

2) Competences / Learning objectives

The topics of learning objectives and competences have to be considered in two respects within this program. For further development of the pilot activities discussed here, the program managers recommend a more detailed specification of competences at a more specified level. Participants should be able to familiarize themselves with the learning objectives/competences at a very early stage of the learning program. Learners need to know where the learning path leads in order to identify with the program's guidelines. This aligns with both the program managers' experiences and the program participants' feedback. As aspiring learning professionals need to develop course programs themselves, greater emphasis should be placed on the specification of learning objectives and competences. This goes along with the competence defined above in the curricular matrix ("The learners develop competence-orientated learning objectives"). The main questions are: What are competences the learners need, and how can a learning professional define them? The participants of the course could align with the importance of the topic, shown in these two quotes:

- "*Learners want to have clear understanding what they have to do to get things done.*"
- "*Clearly communicate these objectives to participants to set expectations and guide their learning journey.*"

The topic area concerning the competence orientation was covered during the pilot activities in the online phase. However, the reflection session revealed a significant need for additional input. This demand was met during the on-site phase, where further input and room for discussion were provided. The participants appreciated this intervention. Nevertheless, the timing was somewhat late, as participants had already presented milestone 1 and, therefore, already applied this topic.

Consequently, the clear recommendation is to prioritize the topic, preferably starting in a face-to-face session before delving deeper into the topic during a self-learning phase. This session doesn't necessarily have to be conducted in person; it can also be done in a synchronized online event (for example, a webinar).

3) Course structure

The course structure was divided into two main parts: The on-site session and the online phase. One participant described the on-site session as *"very fruitful and valuable."* The online phase was seen as a possibility of more *"independence in time management".* However, the online phase needs a critical review in a further developing step. One participant told the program managers: *"The purpose of some online tasks was vague and not well connected to the topic of the course."* This phase requires more guidance, input, exchange, and practical examples & frameworks. The participants needed more structure in this phase, while the on-site session was seen as very productive. Only at this stage topics such as competence-orientation could be comprehensively elaborated. Hence, the face-to-face element should be focused on further developments of the program. It provides an excellent opportunity for participants to present their ideas and first drafts of the application task to each other. Furthermore, the exchange with peers and discussion with partners from the industry were considered very advantageous for the participants. So, one participant stated: *"On-site learning was most effective with active discussions on learning methods and competences."* On-site sessions allow participants to receive valuable input from a network and can, therefore, further help develop drafts and rough concepts. Receiving immediate feedback is very important to the participants, and it can be realized in on-site sessions without any hurdles.

To follow this approach, the on-site event must occur when participants have already received some theoretical input but still have enough time to further develop their activities. On the other hand, it's crucial to consider that participants need to get to know their peers and supervisors when the course starts. Additionally, important topics – such as competence-orientation – must be addressed intensively at an early stage. The authors suggest putting more focus on the kick-off event, either in person or through a more intensive synchronized online event. Participants should have an opportunity to get to know each other and other stakeholders (supervisors, partners from the industry).

Following this, the participants are well prepared for a phase of self-learning so that they are more independent in their time management. Yet, this phase must be accompanied by regular exchange, such as periodic reflection sessions on specific topics. This could be enriched and supplemented with practical examples to ensure that the practical and industry perspectives are not neglected. So, the industry perspective could be included more when entrepreneurship partners participate. Moreover, exchanges, for example, through online contact hours or forums, could take place. An intensive introduction phase will facilitate this.

4) Application task

An application task accompanied the online phase, divided into several milestones. Participants found the task well-structured and helpful in achieving the goals and milestones. The participants designed a concept of an upskilling program (see curricular matrix above) and showed, therefore, their competence in defining learning objectives/competences and analyzing the target group as a basic requirement to plan learning programs effectively. This was evident in the summative evaluation and the peer-review evaluation. One participant stated: *"This [instructional design] process involves analyzing learning goals, considering learner preferences, and implementing adaptable instructional strategies to maximize effectiveness across diverse contexts."*

However, participants still required more instructions, materials, and guidance to apply the knowledge to practical frameworks. Therefore, the authors suggest aligning the topics more closely with the application task in subsequent revisions. This aligns with the suggestions mentioned above: clear definitions of the learning goals & competences and a course structure adapted to these competences.

5) Future implications

To sum up, for the development of future qualification programs for learning professionals, the program managers recommend:

- Defining competences & learning objectives precisely and communicating them in the recruiting/starting phase
- Developing an application task matching competences and learner's needs
- Selecting learning formats according to the competences and learner's needs
- Realizing learning formats that combine digital and analog phases
- Designing an intensive kick-off phase to have time for network activities
- Planning on-site events for presentations, discussions, and exchange
- Developing self-paced learning sessions as adult learners need independence in time management
- Accompanying self-paced learning sessions with reflection sessions and regular meetings
- Facilitating opportunities for giving and receiving feedback
- Providing practical examples and best practices related to lifelong learning topics
- Preparing a suitable evaluation concept and using the possibility to evaluate the course at different stages & with different perspectives

The results of this pilot phase can be used to identify the best strategy for improving the training program. The pilot program was designed to be scalable, particularly in the online environment. All developed materials can be adopted, and the hybrid learning landscape is designed to include additional required subject areas without any changes in the structure.

Furthermore, the evaluation concept of D2.4 provided insights and recommendations for enhancing the training program. With this, deliverable 2.4 concludes work package 2 and prepares the further development and establishment of the program.

8. SOURCES

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