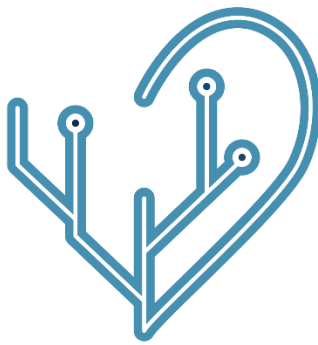


ERASMUS+ TECH2MATCH WP4

JOINT SUMMARY REPORT

Austria, Denmark, Finland, Spain



TECH2MATCH

HEALTHCARE INSPIRED BY TECHNOLOGY



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Work package 4 – Summary report

This final summarizing report of the work carried out in work package 4 (WP4) will describe the progress of WP4, the results from all tasks, and the conclusions based on each indicator (1-6) related to the work package. This report is also the final task (4.5) in WP4, and therefore, the report also concludes the work in each of the respective tasks in WP4.

WP4 has been ongoing from December 2023 until November 2024. FHV has been the lead partner on the work package, with tasks distributed between all four partners in TECH2MATCH. The overall purpose of WP4 has been to create all teaching material based on the designed frameworks for blended learning, real-life scenarios, teaching the lecturers, and the xMOOC. The purpose was approached through 4 separate WP4 tasks, each with a specific objective.

The progress and results of each task are described separately in this report. Task 4.1 was divided between all four partners, UCLM led task 4.2, FHV led task 4.3, and SeAMK led task 4.4. During WP4, stakeholders have been involved on several occasions to provide feedback and discuss questions related to the created teaching material. Specifications related to the involvement of stakeholders concerning the respective task are described. The frequency of meetings between the project partners during WP4 has been average. At the beginning of WP4, several ad hoc task-related meetings were conducted, including planned monthly project management group meetings (PMG) and key online meetings (KOM). In November 2024, a transnational meeting (TM) took place in Austria, with FHV as the responsible partner.

Task 4.1

Progress

The objective of WP 4.1 was to develop the material for blended learning and real-life scenarios. Each partner was responsible for content:

UCN for the Blended Learning Approach and mobile apps; UCLM for the Introduction to Pain and Monitoring; SeAMK for Telehealth, and FHV for Virtual Reality. FHV was also responsible for developing templates that would be used by all partners. This WP began in December 2023. The templates were completed by June 2024 with content creation completed in September 2024.

Results

A pathway for the Blended Learning course (BL) (figure 1) was agreed which allowed for:

- Varying amount of ECTS, ranging from 2 to 5 ECTS
- Different order or approach to course delivery
- Different time frames for being in class vs. working online
- Different/limited access to patients
- Feasible ECTS workload for the xMOOC for participants around the world

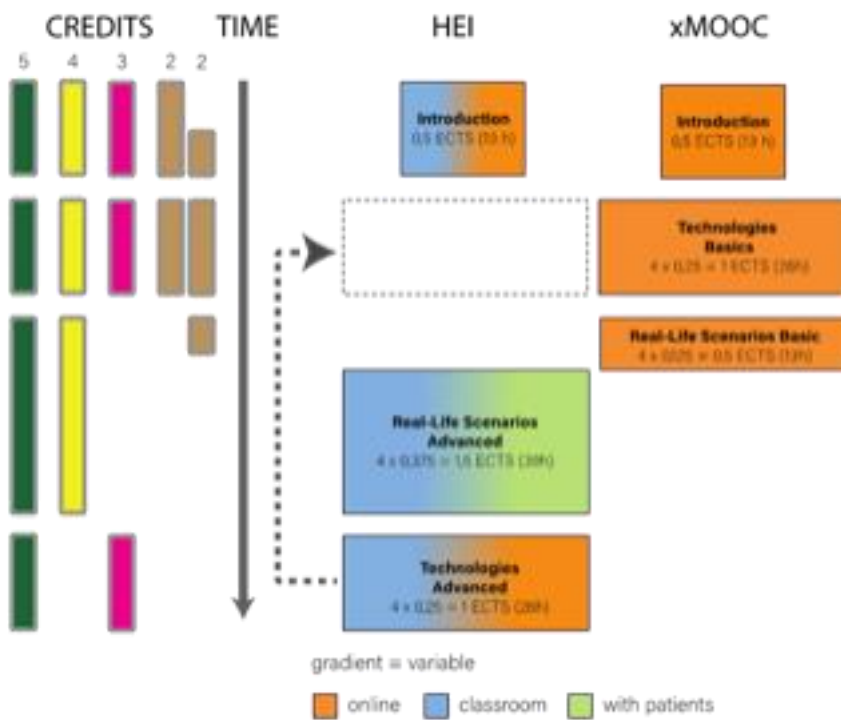


Figure 1. Blended learning course pathway.

Basic (Lower-order thinking skills; Remember, Understand, Apply).

Advanced (Higher-order thinking skills; Apply, Analyze, Evaluate, Create).

Abbreviations: CREDITS (ECTS), HEI (Higher Education Institution), xMOOC (Massive Open Online Course)

It was agreed that we should incorporate an overall learning approach to support teaching activities characterized as both blended learning and real-life scenarios. Reflective Practice-based learning (RPL) was the chosen approach. This incorporates existing knowledge about learning approaches, reflection, and how the development of skills and competencies can be achieved.

Learning outcomes were extracted from the reports of WP2, and a list of learning topics related to technology was synthesized. Bloom's revised taxonomy was used as the framework for constructing the learning outcomes. Frameworks developed in WP 3 (blended learning, real-life scenarios, teaching the lecturers, and creating an xMOOC) were also used to guide teaching methods. Each unit follows the same structure and begins with an introduction and ends with a debriefing video. Tasks and activities define the content of each unit and contain the following details: estimation of task duration, teacher's availability, student collaboration, Bloom's taxonomy level, evaluation/grading options, and pedagogical approaches (based on the different frameworks in WP 3 and the RPL concept).

Each technology unit was divided into the same sections and sub-sections based on the identified educational needs and challenges extracted from WP2. The Unit Introduction to Pain is divided into different sections and sub-sections and offers both basic and advanced tasks and activities.



Figure 1 illustrates how content for Real-life scenarios was planned as both basic (via the xMOOC) and advanced (in the classroom or with patients). For the Introduction to Pain unit, there is also the possibility for teachers to choose basic or advanced learning opportunities, either online or in classroom sessions.

Stakeholder group input and feedback were sought for the content of all 5 units of the blended learning course during May 2024. Each partner distributed the content of the technology unit they were responsible for and the introduction to the pain unit. Only an overview and description of the content were given to the stakeholder groups. The consortium felt that it was too much work to ask stakeholders to review all the created content. A short survey with open questions was sent to stakeholders by FHV, SeAMK, and UCN, whilst UCLM met with members of their stakeholder group online via Teams. Feedback received by all the stakeholder groups was shared across the consortium. Some of the feedback from stakeholders had already been implemented, e.g., quizzes to check whether students had grasped the important learning points, but other areas, such as incorporating patient pain assessment tools, which empower patients to describe their pain adequately, were beyond the scope of this project.

Concluding on indicator 4.1

Based on the work of the partners, FHV wrote two reports. The first, the Blended Learning course template, provides more in-depth details of the RPL and associated pedagogical principles, which were used to define teaching methods and plan learning content related to the learning outcomes.

The second report, Technology Units template, detailed how learning outcomes were aligned with content across all Technology Units. Included in this report was a table of Learning outcomes and content, a table for planning units, which included learning outcomes, a description of the content, and the amount of time needed for completing all tasks, including Real-life scenarios.

The TECH2MATCH consortium has fulfilled indicator 4.1 using these reports as quantitative indicators.

Concluding on indicator 4.2

The Blended Learning course template illustrates the distribution of the 5ECTs across the Blended Learning course. Using this report, the TECH2MATCH consortium has fulfilled indicator 4.2.

Concluding on indicator 4.3

National reports from each partner detail how they involved their stakeholder groups to allow them to give feedback on their thoughts on the content of the Blended Learning course. These reports fulfill the quantitative indicator 4.3.



Task 4.2

Progress

This task was led by UCLM, and the objective was to develop material that could be used to train lecturers from other higher educational institutions who would like to use and apply for the course at their respective institutions. Completion of the task, which started in January 2024, was postponed a bit to make sure that the developed material was in line with the content of the entire course. The task was completed in October 2024. The developed Teaching Guide and related quantitative surveys to be used in WP5 were commented on by the entire consortium, and stakeholders also received a survey about the content of the Teaching Guide. Based on comments from the consortium and feedback from the stakeholders on the relevance of the Teaching Guide content, the task was completed.

Results

The developed Teaching Guide covers all parts of the course. Topics covered are an introduction to the formal structure of the course, the defined learning outcomes, a description of the available pathways used to individualize the course to the needs of the user, a comprehensive explanation with practical examples of the course teaching approach, providing theoretical insight into RPL, the Blended Learning approach, including the developed and used framework, the Real-Life scenario approach, including the developed a used framework. Furthermore, all teaching content is available with elaborate descriptions regarding the learning outcome of each teaching activity, the goal of the activity, the taxonomy level, the focus based on RPL, and the available resources.

Concluding on indicator 4.4

The developed Teaching Guide provides all the necessary information and has been evaluated by the stakeholder groups. The material (Teaching Guide) fulfills indicator 4.4.

Task 4.3

Progress

The objective of WP4.3 was to develop the xMOOC based on the material from the blended learning and real-life scenarios.

The xMOOC covers the basic level of knowledge and engagement (called Technologies Basic and Real-Life Scenarios Basic) to achieve the overall objectives of the Tech2Match course. Each unit was planned as 13 hours of work for students (0.5 ECTs).

Results

The frameworks for blended learning, xMOOC, and the Real-Life Scenarios, which were developed in WP3, were used to create content and define the course structure. Each partner used the same structure to describe students'



tasks and activities to achieve the learning outcomes. The structure for each unit of the introduction and technology units is as follows:

Each module starts with a short introduction video from the project partners and ends with a debriefing video.

Learning outcomes for each task- these are based on the identified educational needs and challenges from the multiple reports in WP2.

Description and duration of the task- tasks and their associated activities are described in detail. All content is in English, with English subtitles added for self-made videos.

Teacher availability and group size- indicated whether teachers needed to be available (face-to-face or online) and whether students would be expected to carry out the tasks individually, in groups, or as a full class.

Assessment – this was to determine whether the students' activities (quizzes, etc.) would be automatically or annually corrected.

Bloom's Taxonomy- this framework was used (remember, understand, apply, analyze, evaluate, and create) to ensure that learning outcomes were appropriate for the expected level of learning.

Pedagogical principles based on Reflect Practic-based Learning (RPL)- required partners to consider which of these principles: experiences, disturbances, exploration, good examples, together and dialogue were used to plan and organize teaching and learning activities.

Level of Real-life scenarios- all units included basic real-life scenarios.

The xMOOC will be hosted on the platform iMOOX.at, which is available free of charge. There is no limit to the number of participants, and all embedded material are Creative Commons (CC) licensed, and material not CC licensed is either linked and opens in a new tab or the external source is clearly referenced which means the content can be used and reused free of charge.

IMOOX trained partners from Denmark and Austria to add content created by the consortium to the online platform.

Concluding on indicator 4.5

A summary report written by FHV details the content and distribution of the xMOOC. This report fulfills the quantitative indicator 4.5.



Task 4.4

Progress

The objective of WP 4.4 was to set the Key Performance Indicators (KPI) for the piloting and impact of Tech2Match. SeAMK was the task leader, which began in May 2024 and finalized in November 2024. A short delay in concluding this task was accepted due to multiple overlapping tasks with the final preparation of the teaching material and populating the xMOOC. The 4.4 task relates to task 5.5 in WP5, but the consortium thought it valuable to also plan KPIs related to both tasks 5.1 and 5.2. Several KPIs are mentioned in the application. All these KPIs were included in the work of this task, and all partners delivered their perspectives on both how many and which KPIs to include and measure.

Results

The task resulted in a document describing all KPIs. KPIs were divided into samples of obligatory and non-obligatory KPIs aimed at evaluating the course quality. Obligatory KPIs were based on several different sources of data both quantitative and qualitative of nature. In total, 12 obligatory KPIs were set in task 4.4. All partners contributed to a selection of non-obligatory KPIs. The non-obligatory KPIs were both quantitative and qualitative in nature, and it was decided that the measurement and application of these KPIs would be decided individually by each partner.

Concluding on indicator 4.6

A document describing the KPI, data source, and which of the described KPIs should be measured by all partners was developed. Hereby, indicator 4.6 is fulfilled.

Concluding on WP4

This document describes all tasks and the fulfillment of all indicators related to WP4. This document also connects to indicator 4.7 and fulfills the last indicator requiring a summarizing report of the work package.