

WORKPACKAGE 4

PEDAGOGICAL TRAINING MATERIAL

FINAL REPORT, AUGUST 2018

Strategic Partnership IMPECD –
Improvement of Education and
Competences in Dietetics www.impecd.eu

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Work package 4- Pedagogical Training Material

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All contributors held regular internal meetings during the project (minutes of these meetings are available on Trello)

Objectives

This intellectual output developed tools and instruments for the learners/students to learn from their peers in a professional context. The tools are highly useful for the production of clinical cases, for the Intensive Study Programmes (ISP) as well as for Life Long Learning. Moreover, webinars were organized to disseminate the results to the public (e.g. webinar about the didactics of the IMPECD project). Furthermore, the curricula for the two ISPs (C1-C4 in the GANTT-Chart) are developed.

Description of work (broken down into activities)

- O4/A1 Research pedagogical training materials
- O4/A2 Production of pedagogical training tools
- O4/A3 Managing and facilitating the discussion forum via IMPECD-platform
- O4/A4 Implement the materials on the MOOC
- O4/A5 Evaluation of the MOOC

Milestones: are displayed with planned date (application) and end date/ status

Nr.	Milestone	planned	expected	status
4a	Results for peer learning methods	1/2016	1/2016	finished
4b	Results of survey for reflective templates	4/2016	6/2016	finished
4c	Reflective templates are produced / updated for the ISP's	7/2016	7/2016	finished
	ISP 1	5/2017	5/2017	finished
	ISP2	4/2018	5/2018	finished
4d	Webinars and presentations/debate organized	6/2017	6/2017	finished
		5/2018	6/2018	
4e	Progress evaluation about strengths and weaknesses of the discussion forum	9/2017		finished
4f	Results of survey analysis on pedagogical material on the MOOC	1/2018		
		5/2018		
4g	Results of analysis user statistics available	7/2017 6/2018		
5	Pedagogical training materials implemented	5/2018		finished
6	Curricula for the ISP's developed	2/2017	2/2017	finished
		1/2018		

Table 1/WP04: Overview of Milestones and intermediate steps in Work package 4.

- All initially planned deliverables and milestones for the time of reporting have been reached.

O4/ 4a Results for peer learning methods

A literature research and discussion within the consortium resulted in an **overview of good practices peer learning methods** (see Trello O4_01_peer learning methods_conclusion March 2016). Partners were asked to indicate which peer learning methods could be especially useful for IMPECD. They also stated the specific purpose and competencies. From the literature and the given feedback we were convinced that the following concepts could be introduced in the MOOC:

- the traditional model,
- projects (private study groups and collaborative project)
- and discussion seminars.
- For example, webinars, online videos, inverted classrooms, collaborate study groups within and between the HEI (higher education institution).

We had little agreement on the following concepts:

- the buddy systems (innovative learning cells and pairing) and
- community activities (social media) to introduce within the MOOC.

We thought there is an excellent opportunity to use the buddy system to give students from the same or different years the chance to ask questions, teach and provide informal feedback to each other. Nowadays you should not ignore the power of social media (Facebook, Twitter,....) but we were also concerned about the vast number of the platforms and their management. Also, it is not easy to control the connection between the platforms and the MOOC. However, the platforms will be used for dissemination purposes.

The MOOC itself has some communication tools, e.g., the discussion forum and the chat box.

O4/4b Results of survey for reflective templates

A **survey about reflective tools**, evaluation and professional recognition has been conducted and was sent out to dietitians, dietetic students, National Dietetic Associations (NDAs) or HEI by EFAD and their European Network of Dietetic Students (ENDietS). The results for this milestone were delivered and published on time. The survey was sent out through:

- EFAD mailing to NDA's, Dietitians and HEI's
- EFAD Facebook
- ENDietS mailing and bulleting
- ENDietS Facebook

The significant results of this analysis are shown below. The report is based on 79 respondents who almost entirely completed the survey. On the other hand, 80 respondents started the questionnaire but dropped out after the first set of questions and therefore were excluded from the analyses. Because the completion of the survey was not time-consuming, it is assumed that these non-responders represent those who are less or not familiar with the terminology and use of reflective practices. Nevertheless, the differences between the alternatives were small. The survey indicated that most of the participants were familiar with reflection and thus asked to describe their method.

Yes, it is mandatory to demonstrate reflection in a formal way	27	(34,2%)
Yes, I voluntarily use reflection in a formal way	14	(17,7%)
Yes, but I don't reflect in a formal way	26	(32,9%)
No, I don't reflect	12	(15,2%)

Table 2/WP04: Do you use "reflection" in your own current situation? (n=79)

Further, more than half of the respondents preferred using pre-structured short questions and discussion groups.

Open field (essay-style) reflective templates are not supportive for most of them. A digital folder (portfolio) is appreciated to collect the performed reflections. We adopted these principles in the reflection part of the MOOC; the technicians from WP1 are looking at the possibility to differentiate in the MOOC between reflective question, evaluation questions, and progress questions (linking the content from the case). This will lead to separate private folders for reflections and one for evaluation results.

Template with pre-structured short questions	54	(68,4%)
Template with open field / essay style	20	(25,3%)
Digital folder to collect previous reflection documents (comparable to a portfolio)	31	(39,2%)
Discussion group with peers / colleagues	41	(51,9%)
Lesson evaluation / tests about content	36	(45,6%)
Other:	1	(1,3%)
- structured according to the Nutrition Care Process or similar structure		

Table 3/WP04: For reflecting the own work on solving the cases, what tools would you think would support you/ students / colleagues to reflect the own dietetic care on these cases in the online course? (n=79) (multiple answers possible)

O4/4c Reflective templates are produced/ updated for the ISP's

The **production of reflective templates** was expected to be one month later than initially planned, but eventually we managed to finalize and upload the final overview on Trello in July 2016, available for all partners to be studied and commented on. The aim was to provide a framework for reflection, especially for those partners or others who are not familiar with this concept.

Development of the competence flower part 1

This comprehensive document was presented during the 3rd transnational meeting in Granada, September 2016 and included a concept for reflection. Based on the different levels of the Bloom's taxonomy a competence flower was created. For discussion purposes, a reflection document and its evaluation were uploaded. The final decision was made during the meeting in St-Pölten; we managed to distinguish clearly between in depth-reflections and shorter reflection, while the competence flower will be used for final reflection. The competence flower depicts the growth process of the learner. It contains the five IMPECD competencies that are based on the EFAD competencies and were mainly developed for this MOOC (the derivation was posted on Trello in Dec 2016). The reflective templates were evaluated after each ISP in May 2017 and April 2018.

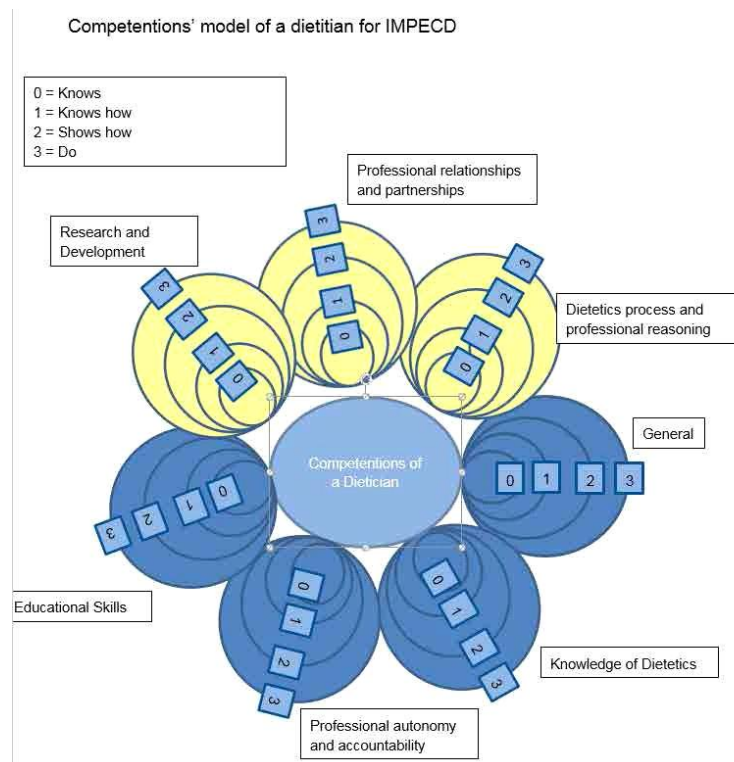


Figure 1/ WP04: The Competence Framework with eight major topics of the European Federation of the Association of Dietitians (EFAD)

Development of the competence flower part 2

The competence flower was developed further and resulted in the idea to create a portfolio in which students had to preserve their reflections during the MOOC (referring documents were posted on Trello in March 2017, after the meeting in St. Pölten and feedback of the consortium). The background of the development of output 4 (and 5) are gathered in a report called: “report Output 4 + 5” and is posted on Trello (last version June 2018).

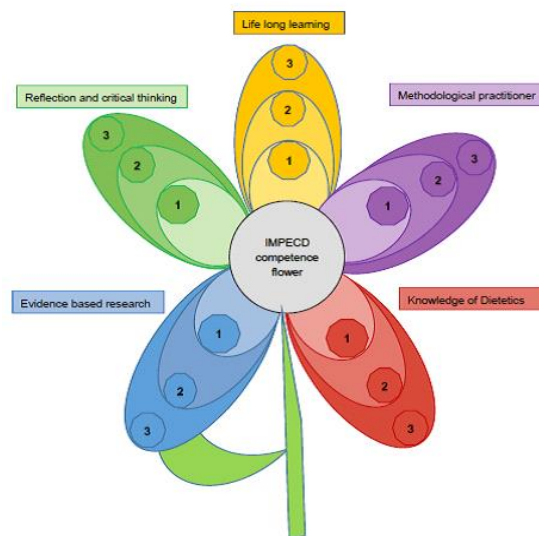


Figure 2/WP04: The IMPECD competence flower March 2017

ISP 1 and 2

This IMPECD project included the provision of two ISP weeks.

During the first ISP in May 2017 students experienced reflection methods and gave feedback on different types of reflection questions; (i) short and (ii) deep. They also reverberated on the achievement of the five IMPECD competencies. For some students, this was a new experience because they were not familiar with this technique at all. Therefore, the main feedback during the ISP was to create a tool to clarify the reflection process. Students pointed out that they were stimulated to stand still on their learning process by answering the reflection questions.

Before the ISP in May 2018 a webinar about reflection was developed (link posted on Trello in May 2018 before the start of the ISP). The consortium decided on referring to and putting a link to this webinar on the introduction page of the IMPECD MOOC. This additional activity was done to highlight the importance of the students' portfolio and to emphasise the reflection (posted on Trello May 2018).

Development of the competence flower part 3

The creation of a MATRIX in which Evaluation questions, Learning Outcomes and the IMPECD competences were linked, led to a slightly modified model of the IMPECD competence flower (posted on Trello March 2018). This is the final version of the IMPECD competence flower.

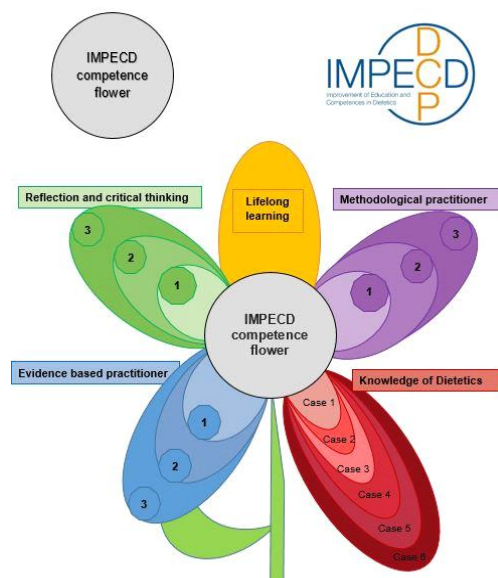


Figure 3/WP04: The Impecd competence flower March 2018

During the ISP in May 2018, the students gave feedback on this final reflective model and on the short and deep reflection question which were integrated into each case of the MOOC. They suggested to reformulate some of the reflection questions, but overall they were convinced of the goal and added value of reflecting.

Portfolio:

All reflection questions were gathered in the portfolio. This document is a summary of all the reflective questions and serves as a template for the students. A portfolio was used to collect information on the learning style of the learner by systematically looking back at what they did, and what they did or didn't achieve.

In fact, it is a collection of evidence of earned competencies on an individual level.

O4/4d Webinars and presentations/debate organized

The first webinar aimed to present the project to students and dietitians. It was organized in collaboration with ENDietS, and presented by Alexandra Kolm. The webinar was recorded and is available under <https://www.youtube.com/watch?v=-E5MN2qB11Q>

Team Antwerp further held a presentation for students during the ICD in Granada (6th September 2016). The presentation included a debate on the reflection, and the portfolio usage. As a result, it is to say that only a minority of students were familiar with the concept of reflection.

Given that reflective practices are neither generally spread among learners, nor are teachers conversant yet, we organized a webinar for the MOOC users about the concept of reflection for implementation in the MOOC. The link to this webinar is accessible through the introduction page of the MOOC and was posted on Trello in May 2018.

Another webinar was developed during ISP1 in Antwerp, where students debated about the strengths and weakness of the MOOC and its use. Under the team's supervision, students employed a live webinar in collaboration with the ENDietS. This webinar is available to all European dietetic students and dietitians. It was published on the ENDietS YouTube Channel afterwards. The topics covered are (i) working with a MOOC, (ii) the intercultural aspect of working together in an ISP and MOOC, (iii) general ISP experiences, and (iv) learning outcomes (in a MOOC). <https://www.youtube.com/watch?v=IY31huADu6o>

In June 2018 Team Antwerp held a webinar on the educational part of the MOOC development. The focus was on linking the evaluation questions and the learning outcomes to the IMPECD competencies. We presented the learning process of the students through the metaphor of a flower. This Additionally, the portfolio and the importance of reflection were explained in this webinar. (posted on Trello June 2018) It was published on ENDietS YouTube afterwards. <https://www.youtube.com/watch?v=3TOnTm8Q5CQ>

O4/ 4e: Progress evaluation about strengths and weaknesses of the discussion forum

A discussion forum and chat function are available in MOOC. We, as Team Antwerp, advised the consortium to use the discussion board while going through the cases, especially where evaluation is difficult; e.g. PAS-R statements for dietetic diagnosis. As a result of the two ISP weeks we received feedback from the students. They stated that they are likely to use these discussion functions in case of questions and/ or knowing that other students are working on it simultaneously. In each case the developers added a 'forum task' and an invitation to the chat option. At this specific point in the course the students get the opportunity to collaborate. They have to ask each other a question, or an explanation of specific terms (e.g. PESR statement). Learners can be obliged to participate actively

and share their thoughts. The discussion board was also used for ISP purposes, more specifically for the preparation assignment.

Strengths of the discussion forum

- Communication among students (national and international) is possible
- Students are asked to communicate in English and thus practice their language skill
- Students get the opportunity to learn about dietetic practice in other countries
- Unknown or less known subjects can be clarified with the help of like-minded people

Weaknesses of the discussion forum

- Only if there is a specific task in the case (above 'forum task') the student is obligated to use the discussion forum with others. Even though this obligation exists, they are not forced to communicate actively. We can't control for passive participation.
- There is no immediate answer to their questions; thus they are asked to wait until another student is participating.
- Most of the cases include only one 'forum task' per case. This is a minimum requirement, but the MOOC has the intention to encourage the collaboration between students; not only for these specific tasks but overall. It is the teachers' duties to encourage this collaboration.

O4/4f: the survey was analysed (see above).

O4/ 4g: Results of analysis user statistics available

Because the implementation of the IMPECD MOOC was not finished at the moment of writing this report, we are not able to give results of user statistics. The MOOC was tested during the ISP's and the batch 1 and 2 cases were implemented before the second ISP batch. However, we were able to complete a qualitative evaluation of the IMPECD MOOC but could not conduct a quantitative analysis yet.

Users statistics are easily downloadable from the MOOC for every lesson (so for the DCP course and for each case) but since the MOOC is not publicly available yet, we could not access these reports.

O4/5: Pedagogical training materials implemented (May 2018):

We organized webinars or presentations on certain topics aiming to help the learner in their learning progress. The following webinars were developed:

- webinar on the IMPECD project by Alexandra Kolm
- webinar on the students' experiences during the ISPs
(<https://www.youtube.com/watch?v=IY31huADu6o>)
- webinar on reflection, by team Antwerp. This webinar is implemented in the introduction page of the MOOC (posted on Trello May 2018 by Team Antwerp)

- webinar on ICF by Andrea Werkman. The webinar is implemented in the DCP-MOOC. The link to this webinar: <https://www.youtube.com/watch?v=I1m40eAYVLI>
- webinar on PAS(R) statements by Andrea Werkman. The webinar is implemented in the DCP-MOOC. The link to this webinar: <https://www.youtube.com/watch?v=mzkEPxwtycs>
- webinar 'The didactics of the IMPECD MOOC' by team Antwerp. This webinar was also completed as a dissemination activity. It includes an explanation of the goal and importance of the portfolio for students. Again, this webinar can be found
- on the introduction page of the MOOC (Trello May 2018).

Every case consists of different types of reflection questions (deep reflection, short reflection). The student is required to complete a portfolio. This starts with a short introduction of him-/herself and explains one's motivation for participation in the MOOC. The learner has to answer some reflection questions in each case. After the student has completed all learning tasks there is a general reflection with the purpose of gathering all reflection questions in the portfolio, so the students can prove their competences.

04/6: The curriculum and the dates for the ISP were developed

The IMPECD project aimed at providing students with key competencies that are needed to work successfully as dietitians in the healthcare sector. It also supports the idea of Life Long Learning for dietitians. Therefore, two Intensive Study Programmes (ISP) have been planned. The two ISPs were planned for both learners and teachers. Each ISP lasted five days.

The application included stakeholder focus group during the ISP, but during a previous consortium meeting the team decided to continue with experts rather than stakeholders. Most of the developed cases started with real case material, so clinical experience is already considered. All participating teachers from the consortium partners were experts and have been involved in the critical analyses and discussions. Additionally, the IMPECD consortium and dietitians represent the professional field, and the participating students are a major stakeholder too.

Additionally, we decided that the ISP should focus on supportive material and learning outcomes. The participating students developed a presentation to share their experiences (about the IMPECD project, working with other cultures,...) with other non-participating students, teachers and dietitians through an EFAD/ENDietS webinar after the ISP.

ISP 1

The first ISP took place in May 2017 in Antwerp. For the first ISP five 6th term students from each HEI (25 in total) travelled to Antwerp to join a week of the Intensive Study Program (ISP) in the week of the 29th of May until the 2nd of June 2017. Besides the students two dietetics teachers from each partner organisation (except St. Pölten: 2 teachers, 1 technician) participated in the ISP.

ISP 2

The second ISP took place in May 2018 in Neubrandenburg. Five 6th term Bachelor students from each partner university met in Neubrandenburg to join the ISP for one week in month 32.

The curriculum and the dates for the ISP were agreed within the consortium. To do an online time-management tool was used.

Seven versions of the ISP 1 program were created, on which the partners provided give thorough feedback. The program for the ISP was finalized during the 4th transnational meeting in St.Pölten (February 2017). It included parts of evaluation of the DCP, the MOOC and cases, usability test, learning outcomes, intercultural aspects, social aspects, reflection and evaluation. We also have foreseen time to meet within the consortium during the ISP.

The program of both ISP programmes and the output from these two weeks is posted on Trello. The program and the preparations for ISP 1 have been used to develop ISP 2.

During the two ISP weeks the case developers gathered information and feedback from students. In the first ISP week (May 2017) the cases of batch 1 were evaluated. Each case developer made a report of the adaptations that were needed eventually. This feedback summary is uploaded on Trello on the Board of output 3: the cases. Also, the DCP MOOC was assessed during this first ISP week in Antwerp.

In the second ISP week (June 2018) the cases of batch 1 were evaluated again. Students had to complete the cases as a preparation task before the ISP 2. During the meet-up the students gave feedback on these cases. Afterwards the students worked through the cases of batch 2. As in ISP 1, every step in the case was evaluated through a discussion between students and case developers. This method allowed open feedback, which was then collected in a summarizing report. This file is uploaded on Trello in the board of output 3: cases. Alexandra Kolm held a focusgroup session on collaboration in ISP 2. Every case developer also asked the learning group questions about the need of peers, how to learn, the discussion forum, etc.

Challenges in work package 4:

One expected challenge is motivating learners to "reflect"; i.e. to complete the reflective templates and assure a qualitative reflection. A preliminary result on the survey outcomes indicates that many countries lack a reflection process on professional development, and if it occurs it is mostly informal. This suggests facilitating the accessibility of the reflection part and make it visually appealing (not complicated or overloaded, well-structured and attractive with a clear view on professional progress).

When we completed the interim report, we wanted to control for the following issues:

- Check if all partners implement the reflection method in the same way, and support them where needed
- Test if learners understand the aim of reflective tools
- Technological aspects: provide a private portfolio, and identify reflection vs. progress vs. evaluation question (see discussion and minutes during 4th transnational meeting in St- Pölten, February 2017)
- Show the result of reflection in a grow-perspective (e.g. flower, if technically possible)

For the final report we experienced some challenges in work package 4 since not all contributing partners were on the same skill level of reflection work. Additionally, not all HEIs worked with a portfolio before this program. These differences resulted in additional efforts to establish a standard for the learning outcomes and the link to evaluation questions. It was our interest to balance this knowledge, so that every partner uses the same method to create the cases. This allowed maximum success. Another challenge we encountered included the students. Those who were not familiar with reflection techniques also needed guidance. Through the creation of a webinar and the explanation of the portfolio we were able to master this obstacle. Additionally, we included the information about the reflection also on the introduction page of the MOOC. This gives every student the opportunity to see the information on the first page and can learn more about this type of learning. Since it was not possible in the MOOC to create an own portfolio, or to gather all the answers from open questions, we expect the students to copy and paste their answers in their own (private) portfolio. Even through the benefits of the MOOC outweigh the disadvantages we need to consider them as well. As the students work through a learning process, they will be accompanied by the metaphor of a flower- the competence flower. We could not create a personal “pop-up” flower for every individual student that would show the progress of the case. As a result, we decided that the flower will be the same for every student. Through the answers of the reflection questions students have the chance to demonstrate their personal growth in the course.

What was the project's impact on the participants and participating organisations involved in the project?

Teachers and students of AP benefitted from and increased their competence in

- International collaboration skills by working and spending time together during the ISPs and transnational meetings
- The participation in this Erasmus+ project has increased the desire to participate in other international projects in the future because of the experience we build up.
- Knowledge about the different cultures of the consortium
- Understanding of and empathy for other systems of education and methods of teaching. Searching for consensus during consortium discussions
- Organizing international exchanges with students and teachers (e.g., ISP1, where students were involved in the organization, besides the five participating students)
- Presentations, posters, articles and other publications in English
- Language skills (English) in general
- Sound and sustainable personal and professional connections with our partners
- New didactic methods for learning – the digital environment of Moodle is the same as we use in our university (since 2017); the project increased the familiarity with that environment and resulted in ideas how we will incorporate the new curriculum development
- Promoting the dietetic profession in general
- Supporting our universities as innovative and internationally focused institutions

- Knowledge and understanding of the dietetic care process
- Teachers involved in the IMPECD project learned to work with Moodle and how to create a lesson within this online tool. For each case another lesson is created. We learned that Moodle has advantages (the student can learn whenever he wants, it is easy to create a lesson in Moodle, you can evaluate how the students answer the question, you can add feedback, there are different types of asking questions,...) but also disadvantages (e.g. working and link competencies in the lesson, using colours, they're not a lot options for the layout, it is a linear path, the learner gets only a score for his first attempt, it is not possible to upload a PDF-file in the lesson: this has to be at the beginning of the case ...).
- Three team members didn't work with European partners before. It was a challenge for the team members to communicate in English and to learn the differences and similarities between the different education institutes, the education program, the responsibilities of a dietitian, names of medication and foods are also different (for example: minarine is unknown in Germany).
- We experienced to think 'out of the box' in visualising learning outcomes linked to competences by creating the metaphor of a flower.
- For our own institute, it was an excellent opportunity to work on the IMPECD project. Artesis Plantijn Hogeschool Antwerp published this project on their website.

Besides the aspects mentioned above, students specially benefited from and increased their competence in

- Students were involved in IMPECD for project work, bachelor theses and internal placement (e.g. co-organizing the ISP, social events, workshops etc.)
- Dietetic knowledge by using cases and European guidelines
- Professional development through Life Long Learning
- Using scientific literature and guidelines to solve a case
- Enhancing reflection skills
- Students are also more open to international exchange. In this way (ISP or at home) they get the chance to work on their dietary knowledge and they can improve their English language.

How did the project partners contribute to the project? Please detail specific competencies brought in by the partner organisations.

Teachers from AP lead WP4, 5 and 6. We contributed through:

- Sharing/implementing our experience and knowledge on reflection and portfolio that we gained after 15 years of competence-based education
- Sharing/implementing our experience and knowledge of evaluation methods, based on our experiences with e-learning, competencies and learning outcomes and validity of testing methods
- Sharing/implementing our experience in organizing international weeks

- Based on previous project experiences we collaborated and co-managed the work packages
- Due to the high workload and highest number of work packages, AP university provided extra working hours to achieve all our outcomes. AP also contributed during the ISP 1 by financing events and catering.
- Our contacts with the hospital were vital in the development of realistic cases
- During the application stage, we provided the lead university with sufficient input and contributed constructively during partner meetings
- We disseminated the project and its outcomes through internal, national and international channels
- Our connections with the students network ENDietS made it possible to hold four EFAD/ENDietS webinars related to IMPECD

The contribution of team Antwerp to the project was grounded on teamwork.

The advantage of our team is that we worked together, but also each team member took his/her responsibility of subtasks and monitored the deadlines individually. Team Antwerp was very interested in digitalization; it was often testing and trying to gain new insights into the online learning tool.

The dietitians of the team worked hard on developing the cases and supervised students during the 2 ISP's. This engagement was possible because of their competencies as a dietitian but also because of their tutor experiences in student projects. In developing the cases they stayed in contact with the non-university experts, they discussed a lot, brainstormed to improve the cases, divided the work but always asked each other for feedback. This method allowed us to take our action to a higher level and proved that the teamwork improved the final output.

Team Antwerp was responsible for Output 4 and 5. The didactics of the IMPECD MOOC implies that each lesson (each case) has learning outcomes which are based on three different levels (Taxonomy of Bloom). The elaboration of this started already at the very begin of the project (sep '15). Literature was used to create a framework assuring uniformity in the IMPECD MOOC. The necessary steps were explained to the partners. Team Antwerp gave feedback about evaluation questions, learning outcomes and reflection questions. Later in the project, the development of the IMPECD competencies were created. We then linked the different competencies to the learning outcomes of all the cases assure that every competency is met when the learner finishes the IMPECD MOOC. As a result, the IMPECD competence flower was created.

The idea of a student portfolio within the IMPECD project was ours. We have a lot of experience in reflection (in our curriculum students have to reflect in every course) and in student portfolio, in which we control the learning goals of the students and provide feedback on how to achieve them. The fact that in 2017 our HEI integrated an own kind of Moodle system, resulted in an intense learning and working process with this tool on our side. The Moodle system at AP is very similar to the method used for the IMPECD MOOC. As a result, we could quickly work with the IMPECD MOOC system, bring in our cases, upgrade them, give feedback on the reflection questions in other cases, etc.

In our curriculum, the ICF model (International Classification of Functioning, Disability and Health) is of great importance. Students learn to work with it when solving clinical case studies during their education. Because our teachers are knowledgeable and experienced with the ICF they provided valuable feedback for other HEI's who weren't familiar with ICF.