Developing, implementing, and disseminating an adaptive clinical reasoning curriculum for healthcare students and educators

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D3.1 Train-the-trainer course outline and online course material - Summary of deliverable

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1. Introduction

As part of deliverable 3.1. the DID-ACT partners and associate partners developed eight train-the-trainer learning units for educators on different clinical reasoning related topics. Target groups of these courses are educators in the health professions, but also advanced students. These learning units are designed to be implemented in a blended learning format and are aligned with the corresponding DID-ACT student curriculum. In the following sections we provide an overview about the conceptualization and development of the train-the-trainer learning units.

3. Quality criteria

The learning units developed for the train-the-trainer course should be

- tailored and adaptable to the educators needs.
- easily accessible, applicable, and understandable.
- based on the DID-ACT curricular framework (D2.2).
- reviewed by all partners and additionally by associate partners.

4. Methods

The planning and development of the learning units of the train-the-trainer course was closely aligned with the student curriculum (D4.1).

4.1 Development of the curricular blueprint

In the DID-ACT framework (D2.2) we had defined overarching themes and learning objectives for the train-the-trainer learning units. Based on this framework and the barriers

[1] and solutions for implementing a clinical reasoning curriculum, we developed a curricular blueprint at the beginning of this deliverable (see figure 1). The blueprint was drafted by UAU and MFUM and discussed and agreed upon by all partners and associate partners as part of D3.1 and D4.1.

4.2. Development of the learning units

For developing these eight learning units we split our consortium into small teams of 3-6 persons, each working on one learning unit. As far as possible we made sure that in each team we had representatives of different professions, partner and associate partner institutions, and levels of expertise (including students). This allowed us to include different perspectives on each topic. Each team organized itself and presented updates of their group work during our bi-weekly team meetings. After a team had completed a learning unit we organized a peer consulting process adapted to working remotely to receive feedback from the whole team and associate partners. Following the review process the learning units were revised by the development team and after final approval of the consortium implemented in our learning management system Moodle. After testing and a final quality check it was published.
Each learning unit was implemented to be used in a guided / structured way if the learner is part of a planned blended learning course. In addition it is also accessible in a self-directed way. The second option required some adaptations of the learning unit, as for example sample solutions had to be provided as feedback for assignments instead of a follow-up discussion during a synchronous meeting.
For all planned synchronous meetings, we made sure that these can either be implemented face-to-face or virtually.
To support and structure the work of the development teams UAU and MFUM provided a template that we used to specify the outline and content of each learning unit based on instructional principles [2,3,4]. A similar template has been introduced for the curriculum development at the medical school in Augsburg, which we translated and adapted to our needs. This template is publicly available for download on our website and includes the following information about each learning unit:

- Specific learning objectives, target group(s), required prior knowledge
- Title, description, group size, estimated workload/duration
- Synchronous and asynchronous learning phased
- Details for each phase with instructional steps, including types of instruction, description, method of instruction, duration, material needed, and possible adaptations
- Suggestions for assessment
- Outline for virtual patients / cases if required for this learning unit

Each template also included space for the review comments and an overview about potential teaching and assessment methods.

5. Results

The results of this deliverable are the curricular blueprint and the implemented learning units. Both will be summarized below, and are publicly available in our learning platform moodle.

5.1 Curricular blueprint

Figure 1 shows the curricular blueprint for the train-the-trainer (in blue) and the corresponding student (green, yellow, red) learning units. The colored dots in the left column indicate the theme a learning unit is covering.

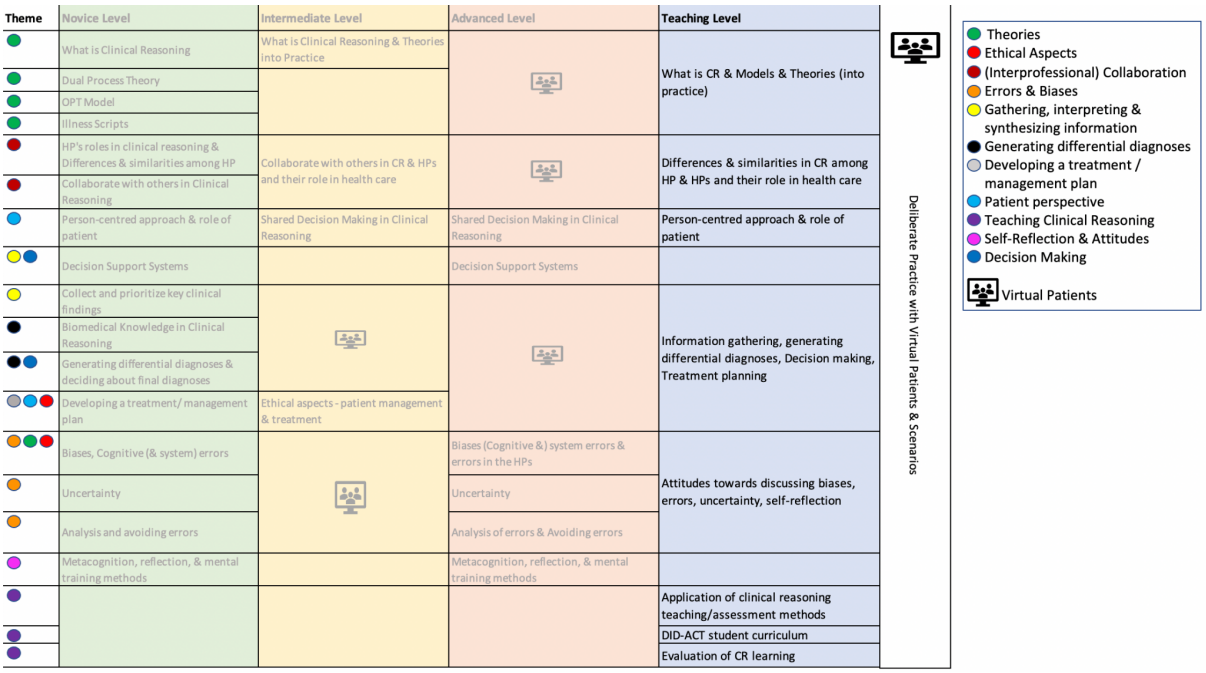

Figure 1: Curricular blueprint for the student curriculum (grey) and the train-the-trainer learning units (in blue).

5.2. Train-the-trainer learning units

The following figure shows the eight learning units developed for the train-the-trainer course on clinical reasoning. The learning units can be accessed after registering for the moodle platform or login in with university credentials (EduGain). All course material is available in English, but if needed can also be translated in additional languages.

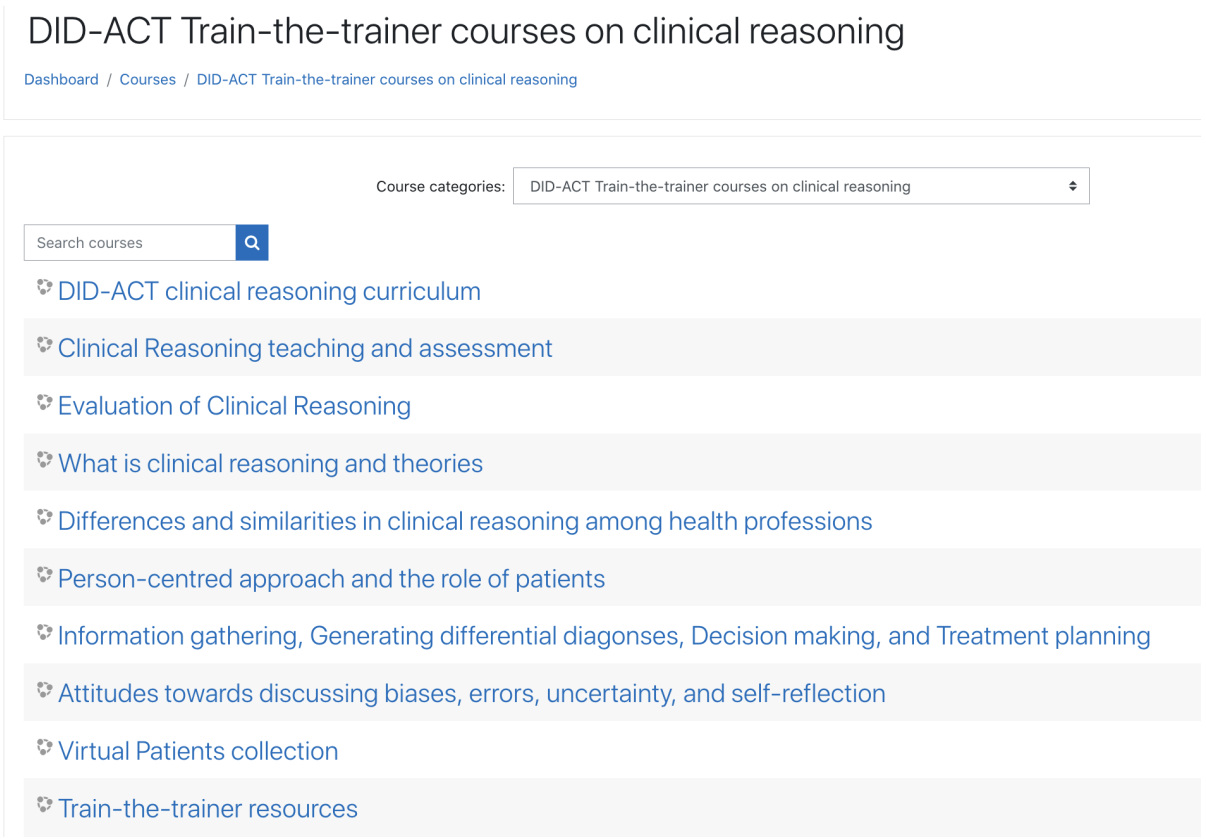

Figure 2: Overview of the rain-the-trainer learning units in moodle (direct link) and additional courses for accessing virtual patients and the facilitator resources for teaching the learning units.

The outline, description, and all required material for teaching these learning units is provided on the moodle platform in the course Train-the-trainer resources.

6. Conclusions

The described approach for developing the train-the-trainer learning units allowed us to include many different perspectives on clinical reasoning from partners and associate partners. The development was challenging in terms of discussing and agreeing on aspects of the learning units, finding time-slots for virtual meetings, and merging the different perspectives and ideas. However, we believe that our approach led to richer learning units with a wide applicability in other schools and faculty development programs. Our previous work on the curricular framework and the identified barriers and solutions for providing train-the-trainer courses was a valuable basis for this work.

7. References

1. Sudacka M, Adler M, Durning SJ, Edelbring S, Frankowska A, Hartmann D, u. a. Why is it so difficult to implement a longitudinal clinical reasoning curriculum? A

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