

## Chapter 12

### Training the trainers of the 21<sup>st</sup> century

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#### Aim

The aim of this chapter is to provide a global overview of traditional and innovative pedagogical methods in health education (teacher and student-centred and peer-led learning, problem- and project-based learning, the role of digital tools and e-learning, interdisciplinary education in the 21st century) and to equip the futures generations with skills that are necessary to create contextualized, skill-based curricula.

#### Summary

Doctoral students in health sciences are not only the researchers of the future, but they are also the educators of the next generation of scientists, hence the need to provide them with solid teaching skills. 21st century scientific research is collaborative, interdisciplinary and requires the capacity to use digital tools and the willingness to take initiatives. Teaching methods in health sciences need to adapt to that reality, as a result, educators of the next generation of scientists shall be familiar with innovative pedagogical methods that surpass the traditional teacher-centred, content-based teaching that leaves students in a passive position. Instead, student-centred, action- and problem-based, blended learning methods using digital tools are required that provide future scientists with more complex skill sets.

#### Methods

Besides a descriptive e-learning material concerning teaching methods, curriculum design and evaluation, enriched with videos, links to publications, a normative quiz to test students' acquired knowledge and understanding, and a discussion board, the chapter will adopt an interactive problem-based learning approach, in that students will have to design curricula, propose potential class scenarios, trouble shoot real-life classroom situations, and give feedback about each other's performance.

#### Learning Outcomes

Students will be able to

1. Understanding traditional and innovative teaching methods in health sciences (Teacher and student-centred education, action-, problem and project-based learning, peer-led education, simulations)
2. Designing a skills-based curriculum (setting objectives, adapting resources and teaching formats to objectives, imagining classroom scenarios, defining evaluation criteria)
3. Understanding the advantages of blended learning and the role of digital tools in it
4. Using digital tools in the lectures to boost interactivity (Zoom, Wooclap, Moodle etc.)
5. Solving in-class situations

6. Designing an interactive MOOC in health sciences
7. Understanding and teaching interdisciplinary skills in health sciences.

## **Complementarity to CONSCIOUS I Materials**

The issue has not been covered by the CONSCIOUS I project.

## **Content**

- 1 Traditional and innovative teaching methods in health sciences
  - 1.1 Introduction: a little bit of history spiced up with some theory
  - 1.2 Teacher-centred, passive, content-based methods
    - 1.2.1 How do teacher-centered methods work?
    - 1.2.2 Curriculum design in a teacher-centered approach
    - 1.2.3 Advantages and drawbacks
  - 1.3 Student-centred, action and skill-based methods
    - 1.3.1 What is student-centred learning?
    - 1.3.2 Student-centred-curriculum design
    - 1.3.3 Advantages and drawbacks
    - 1.3.4 Examples for student-centred methods
- 2 Designing a skilled-based, interdisciplinary curriculum
  - 2.1 Defining intended learning outcomes (ILOs)
    - 2.1.1 Requirements
  - 2.2 Creating the assessment scheme
    - 2.2.1 Formative vs. summative assessment
    - 2.2.2 Authentic assessment
  - 2.3 Creating curriculum content
    - 2.3.1 Example for a good problem statement
  - 2.4 The roles of the teacher in a modern classroom
  - 2.5 Using digital tools in blended learning
  - 2.6 Creating a MOOC