

Experience Day Medicine



Maastricht University



Content

Programme	3
Problem-Based Learning (PBL)	4
The seven steps of PBL	5
Preliminary discussion	6
(step 1 until 5):	6
Self-Study (step 6):	7
Discussion and solution (step 7):	7
Case: The heart in the scaffolding	8

Programme

Preparation

During your first Problem-Based Learning session, you will work on a case. To be able to discuss this case during the Experience Day, we recommend you to read the case in this information booklet and review the links to the literature sources. Studying these literature sources is called self-study. This is necessary to answer the learning objectives from the pre-discussion of the case.

Programme

Time	Activity
12.30-12.40	Welcome at our Randwyck Campus
12.40-13.10	Lecture
13.10-13.30	Campus tour Randwyck Campus
13.30-14.30	Skillslab
14.30-14.50	Break
14.50-15.10	Demo Problem-Based Learning: preliminary discussion
15.10-16.00	Problem-Based Learning: experience yourself
16.00-16.30	Q&A with our ambassadors

Follow-up

A few days after the event, you will receive an email with information about the admission procedure and how to get in contact with us.

Problem-Based Learning (PBL)

Problem-Based Learning (PBL) offers you a different way of learning from traditional university education. You work in small tutorial groups, engage in hands-on training and attend (far) fewer lectures. Under the supervision of a tutor, you team up with ten to fifteen students to tackle real-life challenges. PBL is an active way of learning that gives you better retention of knowledge, enhances your motivation and encourages you to develop skills that are essential for the labour market in the 21st century.

In PBL you are personally responsible (under supervision, of course) for what you learn. This requires you to play an active role in the learning process.

In short: PBL is all about you, your tutors are very approachable and you learn together in a dynamic way, helping form you into an assertive professional.

Some advantages

You learn together, in a dynamic way

Because you work actively on real-life issues, the theory sticks better in your mind and you learn to apply your knowledge to all sorts of questions. The very different backgrounds of your fellow group members not only make for lively discussions, but also mean you gain experience cooperating in culturally diverse teams.

You acquire skills for life

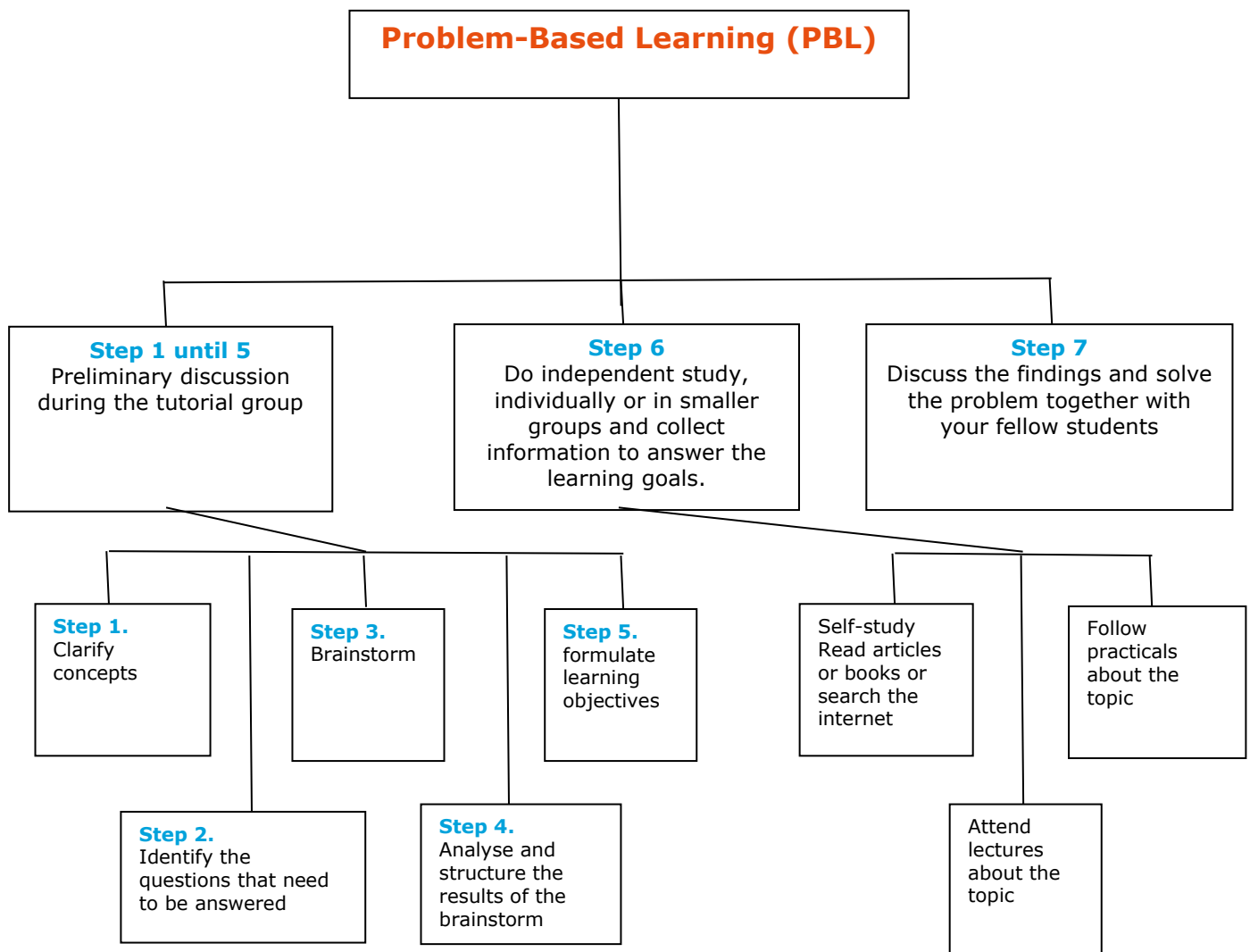
Our graduates serve as the evidence that Problem-Based Learning is effective. They are assertive, independent and professional. They are especially skilled in analysing complex issues, gathering and structuring information, working in international teams, leading discussions, and forming and presenting ideas.



Source: *Problem-Based Learning at Maastricht University (YouTube)*

The seven steps of PBL

In its essence, PBL involves seven steps that you follow with your fellow students in a tutorial group. Together with your group, you analyse a case. Often, the problems you analyse are also the subject of important academic research being conducted at Maastricht University. During the preliminary discussion, you formulate learning objectives that you all have to study at your own for the next meeting. You can find more information about the seven steps of PBL at the next pages.



Preliminary discussion (step 1 until 5):

1st meeting with tutorial group

During the preliminary discussion, the group established which knowledge is already present with respect to the task set. In this way, the existing knowledge is activated, providing a starting point for the search for additional knowledge.

Step 1. Clarify concepts

To avoid confusion or misunderstanding, the concepts used in the task set are first clarified. This enables all participants to start from a common starting point.

Step 2. Define the problem

The essence of the task is determined in order to establish the boundaries of the topic.

Step 3. Brainstorm

Refreshing and establishing the knowledge present within the group (activating previous knowledge), followed by a process of providing as many explanations, alternatives and/or hypotheses as possible for the underlying problem.

Step 4. Analyse and structure

Classifying explanations provided in the brainstorming session, indicating their interrelationships.

Step 5. Formulate learning objectives

Determining on the basis of the explanations given what knowledge is still lacking and what has remained unclear. On the basis of this, learning objectives are formulated.

Self-Study (step 6):

In your own time

Step 6. Self-study

On the basis of specific questions (learning objectives), acquiring knowledge that is understood and can be applied.

- Scheduling: finding regularity and a proper balance between study time and time off, making efficient and effective use of the available time.
- Selecting sources of information: looking for relevant sources of information and selecting the appropriate ones, in terms of quality and quantity, with sufficient depth, for effective studying.
- Studying sources: acquiring new information that one understands and is able to apply in such a way that an answer can be given that is in line with the learning objectives, and the information can be applied, for example to solve the problem set in the task.
- Preparing report: looking back critically at existing knowledge, making links with the preliminary discussion and learning objectives. On the basis of the latter, preparing what must be dealt with in the tutorial group in order to participate efficiently and effectively.

Discussion and solution (step 7):

2nd meeting with tutorial group

Step 7. Discuss the findings

In a discussion with fellow-students, answer and learning objectives are presented, questions are asked, and unclarities are discussed. After the discussion, each student knows whether the new knowledge has been understood, the subject matters had been studied with sufficient depth, and the subject matter can be explained to others.

Case: The heart in the scaffolding

Tom has been selected for the National Student Cycling Championships and may even classify for the international competition. He has to undergo an extensive medical sports examination at Papendal National Sports Centre in Arnhem. These screening tests were introduced after several reports of sudden deaths of athletes during athletic activities. His exercise capacity and health appear to be fine. His blood pressure is normal. The cardiologist tells him that he has a normally functioning heart.

The next day, after their tutorial group meeting, Tom and his friend Dylan go for a ride on their racing bikes. When climbing one of the Limburg hills, he feels how his heart rate increases to elevate his arterial pressure. He also feels that the muscles in his legs start to ache. Dylan explains that - during exercise - the cardiovascular system needs to increase the blood flow to the muscles: the vessels to the skeletal muscles dilate and there is a fivefold increase in blood flow to the heart via the coronary system. Tom recalls a law he had to study in high school that correlates flow, pressure and resistance.

Literature source

Marieb, E. N., & Hoehn, K. N. (2012). Human Anatomy & Physiology (9th Edition).
Pearson.
Page 759 and 760

<https://www.cvphysiology.com/Blood%20Pressure/BP022>

<https://www.cdc.gov/bloodpressure/about.htm>



Seven Step Approach:

1. Clarify concepts
2. Define the problem(s)
3. Brainstorm
4. Analyse and structure
5. Formulate learning objectives
6. Self-study
7. Discuss the findings