# Tutor’s booklet

*We have designed a template for you to fill in and then print to help the tutors know how to guide the students. Sometimes the teacher has to fill in this document, sometimes it’s the tutor who fills it in during or after the PBL sequence. Remember to erase these darker section before printing it!*

**The students**

*To be completed by the teacher: how many students? Which field of study and which level? What are the group dynamics?*

**Intended learning outcomes**

*To be completed by the teacher: What are your ILOs for this PBL sequence?*

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| Global recommendations |
| R1: *(to be completed by the teacher about the course specificities, the students)*R2:R3: |

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| You can redirect students with the following questions. |
| * What's the main problem?
* are there any inconsistencies? What are they?
* What's expected from your group?
* Are you sure this is what is expected from you?
* What relevant information did you find in the situation?
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| You may avoid diversions and manage time using the following questions. |
| * Can we return to a more methodical approach?
* Who can summarise what we've learnt so far?
* Can we go back to our discussion plan?
* Since we're making little progress, can we write down a study question?
* Could we look for other hypotheses now?
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**The complex problem**

*To be completed by the teacher*

**What students should plan (= first phase) to produce/deliver/explain/create during this PBL**

*To be completed by the teacher: be as specific as possible about each phase*

**Resources to give to students**

*To be completed by the teacher*

**Group n°…** *To be completed by the tutor*

**Organisation of this sequence.** *The teacher has to note the duration of each step*

**Phases and steps**

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| First phase: exploring the problem |
| **Students’ steps** | **Tutor’s aims and possible questions** | **Tutor’s comments during the 1st & 3rd phases** |
| **Organise group** *Duration?* |  | *To be completed by the tutor* |
| **Discover and rephrase the problem***Duration?* | **Make sure the problem is understood**In this first step, the tutor must ensure that the relevant terms are understood and identified by the students as part of a potential learning goal. The tutor encourages the students to clarify items if necessary.* *How do you define the key terms?*
* *What elements need to be clarified?*

The tutor can help the students to express their representations and their hypotheses to obtain an explanation of the problem in their own words. The tutor needs to prevent the group from further analysis before overall agreement to the problem reformulation is reached.* *What is the problem here?*
* *Can you rephrase your statement?*
* *What are the main components of the situation?*
* *What do you think of the opinion expressed by your colleague?*
* *Why do you think that?*
* *What are the objectives?*
* *What are the deliverables?*
 | *To be completed by the tutor* |
| **Design pathways***Duration?* | **Help to extract questions from the problem**The tutor helps students to structure their thinking around the key concepts to explain the problem, and actively pushes them to make links and ask questions. The tutor can ask questions if necessary.* *How do you explain this situation?*
* *How could we represent the situation using a diagram or a network of concepts?*
* *Does one problem lead to other problems?*
* *What would be the possible causes, hypotheses, solutions, or diagnoses?*
* *What questions should we try to answer?*
* *Can we think of any other underlying mechanisms?*
* *Does this impact other mechanisms?*
* *What is the list of items to be discussed, their priorities?*
* *Have we forgotten anything?*
 | *To be completed by the tutor* |
| **Define the knowledge needed***Duration?* | **Help to draw out knowledge**The tutor helps the students to Identify the relevant knowledge they already have to solve the problem and what they need to acquire.* *What do you already know?*
* *What factors allow us to retain or reject this hypothesis?*
* *What do you feel needs to be mastered?*
 | *To be completed by the tutor* |
| **Define a working plan***Duration?* | **Ask for the working plan**The tutor also asks for the different tasks done by each student. The tutor needs to check that the planned data collection is done in accordance with the students' initial questions. At this point, the tutor may compare the intended learning outcomes defined by the teacher with those of the students.* *What resources do you plan to consult?*
* *How do you plan to divide your work time between the different objectives?*
 | *To be completed by the tutor* |
|  | **Provide the materials and resources, if applicable, and final recommendations**The tutor then provides the materials and resources the teacher prepared ahead of the problem. The teacher may also let the students find the relevant resources or provide a supervised "guided search" strategy. The tutor may suggest that the students produce a mind map, incorporating all the notions they are about to learn, which will serve as a synthesis of their theoretical learning. | *To be completed by the tutor* |

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| Second phase: Carrying out the action plan |
| **Individual step, asynchronous/no tutor needed** |

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| Final phase: feedback and assessment |
| **Steps** | **Tutor’s aims** | **Tutor’s comments** |
| **Determine the role of each partner***Duration?* |  | *To be completed by the tutor* |
| **Share everyone’s production***Duration?* | **Make sure the group pools and shares ideas and information**The tutor ensures that students do not complete the problem without identifying their inaccurate, incomplete, or false conceptions, leading to a definition of future intended learning outcomes.The tutor encourages students to identify other situations where the new knowledge acquired may be useful.* *What are the important points to take away from our discussion?*
* *Can we find links between the different hypotheses put forward?*
* *Did you achieve the objectives?*
* *Are the concepts clear?*
* *What are the diagnoses, solutions, or actions to be retained?*
* *In what other contexts might these new insights be applicable?*
 | *To be completed by the tutor* |
| **Assess***Duration?* | **Review the group's performance**The tutor helps students to analyse their group dynamics, interactions, and the work atmosphere in order to identify areas for improvement in the way the group functions.* *How did the group interact?*
* *Did the group work together effectively?*
* *Was everyone able to express themselves?*
* *Was the time allocated for each step sufficient?*

**Review individual performance**The tutor helps students to reflect on the process, to become aware of their attitudes, values, problem-solving strategies, and what they have learned (skills, knowledge…). | *To be completed by the tutor* |

**Assessment**

*include here the self, peer and group assessment you plan to give. For example:*

***Example of self-assessment***

Complete this assessment individually

1. Explain in a nutshell the problem as you understood it.
2. What questions, sub-problems emerged from it?
3. What existing knowledge did you use to solve it?
4. What new knowledge did you acquire?
5. How did you acquire this knowledge? Please identify and assess your sources’ reliability.
6. What aspects do you need to go into further?
7. What shortcoming(s) did you identify during this exercise? How could you improve the process?

**Assessment framework for the teacher/tutor**

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| The student is able to… | Related question | Not acquired | In the process of being acquired | Acquired |
| Rephrase a problem | 1 |  |  |  |
| Identify issues from a problem | 2 |  |  |  |
| Use existing knowledge to solve a problem | 3 |  |  |  |
| [Put the ILOs you planned to cover] | 4 |  |  |  |
| Analysis reliability | 5 |  |  |  |
| Identify learning outcomes in order to solve a problem | 4 & 6 |  |  |  |
| Identify shortcomings and possible improvements to a process | 7 |  |  |  |