



Chapter VI

Developing Problems / Triggers

Introduction

The starting point for problem-based learning is a problem statement, which is also often called a trigger since it starts the PBL case and prompts the development of learning issues. It is formulated as a problem, query or puzzle that the team has to investigate and may be presented in a number of ways, for example as a video or as a simple piece of text.

In many ways, the problem statement is the key to successful PBL. If it does not stimulate the students' interest or enable students to generate learning issues that relate closely to the desired learning outcomes, then there are likely to be difficulties with both team work and achieving cognitive learning outcomes.

In this chapter we will explore the issues around the development of problem statements and collect advice from a variety of experienced practitioners on what makes an effective problem statement as well as what to avoid. We will also describe a possible process for the development of problem statements (triggers) and discuss examples.

Fitness for Purpose

In many accounts of PBL, it is easy to pick up the impression that there are standard characteristics that all problem statements must have, in particular, they

are ill-structured and real-world problems. Now we will freely admit that these terms are hardly precise in themselves, but there is a gaping hole in this generalisation and that is the issue of the context in which the problem is used. The constructivist approach to learning suggests that the context is very important.

The context for students includes many aspects: their experience of problem-based learning; their age and experience in education; their attitude to learning (Perry, 1970); the other activities and elements of the course; the resources and time available; and the facilitation, support, and guidance systems available to them.

A student's attitude to learning is often one of the first things to be displayed. Many students in technological disciplines start from the standpoint that there is a right or wrong answer and struggle with the transition to a pluralistic view.

It may seem like stating the obvious, but a problem for 18-year old students who are new to PBL is likely to need a greater amount of scaffolding, guidance, and support *designed into it* than one provided for their final year counterparts who have a couple of years of experience in PBL.

New undergraduate students in the United Kingdom arrive at university expecting to be told what to learn. They have many years of experience in this. It is not surprising that one of the aspects of PBL that they find very difficult is the creation of realistic, specific, and appropriate learning issues. However, like most skills, they improve with practice.

The term scaffolding is a very good metaphor, describing the temporary supports provided to learners, which are gradually withdrawn as students become more familiar and skilled with the PBL process. The right amount of scaffolding is particularly important. This is a point worth emphasising, since in certain contexts, it has been reported that ill-defined, real world problems may actually discourage students—leaving them feeling overwhelmed instead of motivating them. In cases like this, an initial structured problem (a complex problem broken down into sub-stages with clearly defined deliverables at each stage) has been found to ease them into the PBL setting. This “structuredness” can be reduced over time (Beaumont, Sackville, & Chew, 2004).

This context also includes the experience of the course designers and facilitators. Many tutors starting with PBL can be convinced of its benefits, but feel just as uncomfortable as students when it comes to running the sessions. Greening (1998) reports “some studies indicate that student reaction to PBL becomes more favorable in later incarnations of the course, and this may possibly be a result of incorporating pragmatism into, perhaps, an initially overly-idealized curriculum.”

We think it is also worth stepping back at this stage and considering for what purpose the PBL is being used. Maggi Savin-Baden (2000, p. 127) provides five

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