



Creating a Scenario to Explore Problem-based Learning

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In May 2002, I was given an opportunity by CDTL to present a problem-based learning (PBL) seminar, using simulation to provide an experience for NUS staff that would mirror 'real' PBL processes in action. Participating teachers who experience PBL at first hand (as 'students') are more likely to adopt it in their papers/courses than others who may only theorise about its use. What follows is a description of how I helped participants explore PBL processes using this approach.

A. PBL and the 'Archaeological Site'

One of the overriding purposes of PBL is to engage students in processes of problem solving and decision making. Here, less value is placed on reaching any one solution to a problem, and more on learning gained while pursuing selected problem(s).

Hence, I chose archaeology as a problem area so that participants from a range of disciplines could engage in a common language, experience the kind of processes they can give their own students, without the academic pressures of 'having to be right' in their speculations. Here are the steps:

1. I begin by asking participants to place a chair in the middle of the room to form two or more 'monumental piles'. I explain how these monuments constitute an archaeological site.
2. I ask participants what archaeologists do and why. I invite them to form pairs and 'enrol' each pair as archaeologists. Their task is to examine the site thoroughly in their capacity as 'professional' archaeologists and address the following questions.
 - The age of the site?
 - The use(s) of the site?
 - The people who used the site?
 - The reason(s) for the decline of the site?
3. I ask the pairs to form groups of 4 or 6 and then to listen to each group member's views about the site. The concept allows ambiguity—it is free of 'cultural baggage', and gives no clues to any period in archaeological history.
4. Group members are encouraged to reach a consensus on all questions, even if this simply entails an agreement to differ. It would be unusual for experts in any field to reach agreement without contention or negotiation first,

reflecting perhaps the complex nature of authentic problems.

5. The groups are then invited to identify gaps in their knowledge, given their tentative hypotheses: What don't they know? What do they need to find out? What assumptions are they making about links between ideas/concepts?
6. Next, the groups have to decide on what resources they need to substantiate their claims? Where are these resources situated? Resources might encompass historical documents, journal articles, web links, visitor expertise, media archives, or any other artefact enabling insight and support for the groups' assertions.
7. Having decided what is needed to justify claims, each group then creates an action plan to facilitate an organised pursuit of the problems(s), the collection of resources, and ultimately the presentation of findings. This presentation often consists of an oral presentation, supported by a brief written report/executive summary. Decisions have to be made about what needs to be done, by whom, and by when.

B. Reflecting on the Process

Participants are invited to reflect on the efficacy of the process, their role and feelings within the unfolding PBL simulation, and implications for the adoption of PBL within their own classroom settings. The simulated archaeological site provides a 'real' world context. Knowledge used to pursue the problem is constructed from the participant's past and current experiences. The questions allow for multiple responses. Even though archaeology is not the discipline of any of the participants, they claim that the learning is relevant and clearly reveals structural principles of PBL in practice. Many decide to try out the archaeology model with students to gauge interest and reactions to the PBL notion. This is prior to engaging students with PBL within their own discipline area.

Overall, the archaeological scenario engages participants actively at each stage of PBL. Participants work with problems in ways that encourage reasoning skills, knowledge application, and which closely resemble those in the real world setting. Finally, this provides a non-threatening way of introducing change where the encouragement to succeed and the right to fail are both upheld. ■