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## Learning by doing - problem-based and experiential learning workshop

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# Learning by doing - problem-based and experiential learning workshop

## **Abstract**

If we articulate some of our basic assumptions about learning and teaching at University: • Most learning takes place outside the classroom • University students are adults • Students learn in different ways • Action focuses the mind, then we may find that we are not using instructional techniques that foster the best learning environment. Some of us also work in disciplines where the academic award is also a qualification for professional practice. In those disciplines the learning objectives students have are likely to include the ability to apply knowledge, as well as simply to analyse, synthesise and evaluate propositions. They desire not only to know and understand, but also to be able to solve problems and communicate the solutions they find.

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*To learners for whom the knowledge acquisition will ultimately be applied in vocational experience, problem-based learning and experiential learning, which focus on problems or experience derived from practice, are the most effective way of learning about problem solving in the "real world".*

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# Learning by Doing - Problem-based and Experiential Learning Workshop

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If we articulate some of our basic assumptions about learning and teaching at University:

- Most learning takes place outside the classroom
- University students are adults
- Students learn in different ways
- Action focuses the mind, then we may find that we are not using instructional techniques that foster the best learning environment.

Some of us also work in disciplines where the academic award is also a qualification for professional practice. In those disciplines the learning objectives students have are likely to include the ability to apply knowledge, as well as simply to analyse, synthesise and evaluate propositions. They desire not only to know and understand, but also to be able to solve problems and communicate the solutions they find.

There is now a substantial body of literature dealing with ways students learn different things. Donald Schön (1987) documented how professionals learn by reflecting on what they actually do. To some extent, this can be incorporated into learning at University; students can be set tasks which involve them in the sort of activity in which relevant professionals engage. Because they are required to do these tasks, they are forced to learn both substantive knowledge, and how to determine what they need to know, how to find it, how to apply it and how to communicate it. Such techniques have been incorporated into a number of successful University-level programs.

## Why not Wollongong?

In fact, there is quite a lot of problem-based and experiential learning ("PBEL") already at the University of Wollongong, but many academic staff were not sure what it was all about. We decided that a workshop would provide an example of what PBEL was all about.

### **Problem-based learning is a technique in which**

*"the starting point for learning should be a problem, a query or a puzzle that the learner wishes to solve. Organised forms of knowledge, academic disciplines, are only introduced when the demands of the problem require them."* (Boud, 1985)

### **The process is described as follows (Barrows and Tamblin, 1980):**

- 1. The problem is encountered first in the learning sequence, before any preparation or study has occurred.*
- 2. The problem situation is presented to the student in the same way it would present in reality.*
- 3. The student works with the problem in a manner that permits his (sic) ability to reason and apply knowledge to be challenged and evaluated, appropriate to his level of learning.*
- 4. Needed areas of learning are identified in the process of working with the problem and used as a guide to individualised study.*
- 5. The skills and knowledge acquired in this study are applied back to the problem, to evaluate the effectiveness of learning and to reinforce learning.*

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6. *The learning that has occurred in working with the problem and in individualised study is summarised and integrated into the student's existing knowledge and skills.*"

Boud (1985) notes that other characteristics of problem-based learning courses are that:

- they acknowledge the student's own base of experience
- students take responsibility for their further learning
- the problems are inevitably multi-disciplinary or trans-disciplinary
- theory and practice are inevitably intertwined
- there is a focus on the process of knowledge acquisition rather than on the product of those processes
- the role of the teaching staff changes from that of instructor to facilitator
- the focus of student assessment changes from staff assessment to student and peer assessment
- there is emphasis on communication and human relations skills, as students find that they need these skills in order to acquire knowledge and to communicate that knowledge beyond the technical or disciplinary area.

Experienced-based, or "experiential", learning has been defined as:

*"any form of learning which places the experience of learners as central and uses this as the organising principle for learning."* (Boud, 1985)

A key element of experience-based learning is that learners analyse their experience by reflecting, evaluating and reconstructing that experience to draw meaning from it in the light of prior experience; thus experience is the foundation of and the stimulus for learning. It involves the whole person - intellect, senses and feelings, and the learners' appropriation of something derived from the experience which is personally significant and meaningful to them (Andresen, Boud and Cohen, 1995).

Problem-based learning is one form of learning from experience, which is why the two methods of learning though distinct were linked in the workshop. To learners for whom the knowledge acquisition will ultimately be applied in vocational experience, problem-based learning and experiential learning which focus on problems or experience derived from practice are the most effective ways of learning about problem-solving in the "real world".

We planned a fairly small workshop, for which we had

anticipated that small groups working in their own disciplinary areas might want to design a discipline-specific activity based on their own needs. However, we were overwhelmed by numbers and the range of professional disciplinary origins of the participants, including a very large contingent of instructors from the NSW Police Academy at Goulburn. The numbers led us to change the structure of the workshop to enable participants to work across a range of disciplines, and to focus in a more structured way by utilising a generic problem which would provide a common basis for discussion in the workshop and in the debriefing session.

We were fortunate in securing three world leaders in PBEL, and we asked them to lead the workshop.

**David Boud** is Professor of Adult Education at the University of Technology, Sydney, and has been the greatest advocate of problem-based and experiential learning in Australia. He gave a brief overview of the theory of problem-based and experiential learning.

**Grahame Feletti** was closely associated with curriculum design at the Faculty of Medicine at the University of Newcastle, and for the last 4 years has been a professor in the School of Medicine at the University of Hawaii, Manoa. He has been responsible for an inter-disciplinary course based on experiential learning for students of Medicine, Social Work, Public Health and Nursing, involving work on community-based projects in communities, and directed to the solution of specific problems identified by community members. He spoke to the workshop about this experience, and what he had learned from it. He also prepared and introduced an exercise designed to illustrate how PBEL operates in practice .

**Neil Gold** was Russell, McLelland and Brown Visiting Professor of Law at the University of Wollongong in 1994, and gave us the idea for this workshop. He has been Dean of the Faculty of Law at the University of Windsor, Ontario, Canada, and the City University of Hong Kong. He has established professional practice training courses in British Columbia and at CUHK. He introduced a video of students at CUHK actually engaged in PBEL activities, and reflecting on it.

**In addition, a number of local speakers described their PBEL activities:**

**Linda Tapsell**, (Public Health and Nutrition) described some of the outcomes of a program she had developed (with assistance from CAUT) to promote self-directed learning through observation and experience in a teaching clinic for students in nutrition counselling.

**Ainslie Lamb** (Faculty of Law) described the use of both PBL and EBL processes in the subject *LLB311 The Legal Profession and Australian Society*, which is part of the LLB degree course. For the PBL element, students are required to identify a need for either an aspect of community legal education, or for law reform, and produce a response (such as an information pamphlet or a submission to government) to address that need. For the EBL element, students undertake a placement program where they participate in the work of an office, courts and tribunals, or other workplace where legal work is done, and reflect through a journal and a written report on what they have observed and participated in.

**Robin Handley** (Faculty of Law) spoke about training family law students in interviewing, counselling, negotiation and advocacy, by integrating the use of skills in the learning of substantive legal principles, using a typical family law problem scenario as the learning base.

Participants in the workshop were then divided into cross-disciplinary groups of about 8, given a newspaper article, and asked to consider how to design a PBEL exercise investigating issues raised by the article. They were first required to adopt a student perspective, faced with a problem and having to consider how they would deal with it, in a professional discipline. This required them to develop their own objectives and learning issues, and a methodology or learning process for dealing with the problem. Subsequently, they were required to reconsider the exercise from their perspective as PBEL designers, and to consider the issues involved in facilitating PBEL activities for learners. This exercise occupied most of the remainder of the workshop.

About 8 minutes before the final (de-briefing) session, each group was asked to reflect upon the processes it had encountered during the exercise, emphasising the importance of reflecting on experience in any PBEL activity. Participants were asked to comment on PBEL, based on their experience of the exercise.

The debriefing session provided the opportunity for participants to ask questions of the workshop leaders and to clarify many of the issues which had arisen in the workshop, or which they expected to encounter in using PBEL methods.

The participant evaluation of the workshop indicated that most found it informative and useful. It was evident that the benefit varied according to the degree of prior experience which the participants had had in using PBEL methods in their teaching and training. The nature of the workshop

exercise, while frustrating to some because of its own PBEL nature, also exemplified the issues that the use of PBEL raises for course designers such as how much structure is required, and the student perspective.

For many participants, the best features of the workshop were the opportunity to participate actively, the interdisciplinary perspectives obtained, and the opportunity to network with others working on PBEL. There are obvious needs for further such workshops, with more time to explore the issues and practice the methodologies.

## References

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