

Evidence of the Educational Effectiveness of Enquiry-Based Learning (EBL) for Law and Criminology

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Original Query

Do you have any evidence resources that give legitimacy to the educational effectiveness of EBL? (It is for the School of Law/Criminology).

Response

As a first port of call the Centre for Excellence in Enquiry-Based Learning website (CEEBL 2008) contains a variety of resources including case-studies with evaluation from projects that CEEBL has supported and other publications detailing examples of EBL at the University of Manchester.

Examples from the discipline of Law and Criminology will be explored first then the wider evidence, which inevitably will focus on PBL (Problem-Based Learning) in Medicine, where the largest comparison studies have taken place.

This report represents a light review of the area and there has not been opportunity to study all the papers found in any depth. However, it should provide a helpful starting point for anyone embarking on developing EBL or PBL in the area of Law and Criminology.

EBL and PBL in Law and Criminology

PBL has a longer history than EBL, being established in the 1960s at McMaster University in Canada (see for example Barrows 1986). Consequently, there are more examples that are described as PBL rather than EBL. There is a strong relationship between EBL or PBL and the Case Method or Case-Based Learning where cases form the problems that become the trigger to learning (Barrows 1986).

One example of EBL (Braye *et al.* 2003) is in Social Work Law. The case is made for the skills of enquiry, analysis and presentation fostered providing a valuable preparation for ethical practice. This is an example of teaching Law to non-lawyers.

The following articles will be described briefly in a rough chronological order. Whilst they may not provide hard evidence of the efficiency of PBL, they demonstrate substantive use of PBL at different phases of development and a rich resource of examples and reflections of the use of PBL/EBL in this context. This is not an exhaustive search and these works reference other projects that could be followed.

One of the first law schools to adopt PBL was the University of Limburg in Maastricht, Holland (Nuy and Moust 1990), which was founded in 1975 with a PBL medical faculty and extended this teaching to Law in 1982. In this context, Nuy and Moust describe the use of PBL with an illustrative example problem. They then look at student approaches to learning, adopting three categories: deep levellers, memorisers and minimisers and relating these to interpretation of the task, learning intentions and processes used.

Interviewing the students after two tasks, they identify distinguishing characteristics for these categories of students and some insights into their approaches to PBL, concluding that all students, including the memorisers, are approaching knowledge in a more functionalist point of view, 'trying to really use the acquired knowledge in a reasoning process, instead of merely memorising the information for later reproduction' (Nuy and Moust 1990:110-111).

Keith Winsor from the College of Law, New South Wales, Australia, has described examples of PBL developed there. One example of PBL is about probate of a will (Winsor 1991) and explains the relationship between the problem statement and the intended learning. In the second edition of the same book, an alternative problem is described based on a professional neglect case (Winsor 1998). Both these examples represent descriptions of practice, rather than an evaluation of the approach. Elsewhere he also describes the development of other PBL teaching materials (Winsor 1989).

Kurtz, Wylie and Gold (1990) provides an introduction to PBL for legal educators, describing its principles and methods, and makes a strong *a priori* case for adopting PBL approaches.

Blunden (1990) describes the use of PBL for in-house law firm training. Among the 'enormous' benefits of PBL the following were identified: its interdisciplinary nature; its development of supervisory and leadership skills; and its applicability to different learning styles.

Moskovitz (1992) makes the case for PBL over the case method, through a detailed literature review.

Szabo (1993) describing City Polytechnic Hong Kong's (CPHK) Postgraduate Certificate in Law's (PCLL) adoption of PBL as its primary teaching method. As well as highlighting the benefits of PBL emphasises that any programme using PBL as its primary teaching method with a substantive curricula followed by orthodox final exam faces conflicting objectives.

Macfarlane and Manwaring (1998) describe teaching Contract Law in French and English in two Canadian Universities to non-lawyers. Through three years' experience they find PBL an effective means of synthesising theory and practice.

An example of using PBL to teach construction law to surveyors and construction managers (Donohoe 2007) concludes that PBL can transform an imitation subject to a real subject. This small study showed improved course-work mark and student satisfaction for the PBL version compared to a traditional version of the course.

Liddle (1999, Liddle 2000) looks at teaching contract law for translators, so again a law for non-lawyers course. The approach taken is more experimental, looking at the change in student attitudes to learning and the learning environment before and after a PBL course. Their findings reinforce other findings that PBL deepens students attitudes to learning and increases their appreciation of more student-centred learning environments, with less reliance on the tutor.

Driessen and Van Der Vleuten (2000) from the University of Maastricht (formerly Limburg) describe how their School of Law has recognised the issue of matching assessment to the aspirations of PBL, eluded to by (Szabo 1993) and developed a more

rounded assessment systems that is more aligned with ideals of lifelong-learning and PBL. This paper outlines some important lessons about how the assessment regime can undermine the PBL system and should be integrally designed into it.

Sylvester, Hall and Hall (2004) from Northumbria's University Student Law Office, describe the introduction of PBL into year 3, to increase the students autonomy in studying cases in year 4, previously they had been ill-prepared and depended heavily on their supervisors. Evaluation questionnaires showed positive responses to PBL and increased confidence in the skills required and more prepared for their year 4 case.

Hans (2001) describes the use of PBL in a large class of first year law students, to understand plea bargaining through playing the roles of the participants of a plea bargaining scenario, namely victim, prosecutor, defendant and defence. He observes 'that getting the students to actively engage in the negotiating a court case outcome increases their motivation and the intellectual quality of their work' (Hans 2001:147), moving them beyond Bloom's cognitive levels of knowledge and comprehension.

Pletinckx and Segers (2001) look at developing an evaluation system for Maastricht's Faculty of Law programmes. The feedback of staff and students, through their evaluation system is generally positive with detailed suggestions for improvement.

Flagg (2002) recounts a personal journey in teaching Constitutional Law (US) moving from a 'Socratic' approach, through experiments with other active learning techniques, eventually leading to PBL. She concludes that using PBL was a positive experience for herself and the students, who gained mastery of the active knowledge base and problem-solving. It also provided her with unprecedented access to students' conceptions and preconceptions. She noted the need to carve a non-competitive environment from the very competitive context to avoid a student hierarchy being established and maintained.

This paper (Martin 2003) looks interesting, but is unavailable.

Moens (2007) makes the case for PBL to be used in the teaching of law and ties in the success of PBL with the success of his PBL students at a national debating competition.

This rich body of literature articulates many of the arguments for adopting EBL & PBL, including dissatisfaction with traditional teaching methods. It provides a variety of examples of teaching law through PBL in different contexts and at different levels, to both lawyers and non-lawyers. Many of these examples have some level of evaluation or reflection from the staff involved, lending support to the benefits of P/EBL. However, for more systematic 'evidence' it is necessary to look outside of this field.

PBL & Medicine

The best evidence for the educational effectiveness of EBL is for its precursor PBL in Medicine, where it was initially conceived. This is both for historical reasons, it was developed in Medicine so there is larger adoption and a longer history, and for reasons of research culture, pedagogic research in medicine is well established and values the quantitative approaches, it also borrows effectively from its discipline research in its methodologies and methods. This combined with relatively large cohorts of students required to achieve similar outcomes, in some cases through the same standardised assessments, provides more opportunities for systemised quasi-experimental research.

There have been six major reviews of this research, the first three in the same volume of *Academic Medicine* (Albanese and Mitchell 1993, Berkson 1993, Vernon and Blake 1993), the later three building from these original reviews (Colliver 2000, Smits, Verbeek and de Buissonje 2002, Dochy *et al.* 2003). A seventh review (Gijbels *et al.* 2005) cast its net wider than the field of medicine, but was only able to identify one study from outside that matched its criteria, from the field of economics (Son and VanSickle 2000).

Albanese and Mitchell (1993), looking at medical education studies from between 1970 to 1992, found:

- Students found PBL more nurturing and enjoyable than conventional instruction;
- PBL graduates performed as well, if not better, than traditionally taught students in clinical exams and evaluations;

However, they scored less well on basic science tests and engaged in backwards reasoning, instead of forward reasoning used by experts. PBL was also found to be expensive for class sizes over 100.

Berkson (1993) focused on PBL in the medical literature from 1992 in a narrative meta-analysis, looking at six topics on the effectiveness of PBL: problem-solving; imparting knowledge; motivation to learning; self-directed learning skills; student and staff satisfaction; and financial costs. The results showed no difference between PBL and conventional teaching, except PBL was more stressful for staff and students and appeared to be unreasonably expensive.

Vernon and Blake's (1993) meta-analysis of medical studies from 1970 to 1992 found improved student attitudes and opinions of programmes. No difference on factual tests, but lower performance on the National Board of Medical Examiners Step 1 (NBME, a US factual test of medical knowledge).

Colliver (2000), starting with the three 1993 reviews above and research published from 1992 to 1998 in medical education, found no convincing evidence of improvement in knowledge base or clinical performance, given the increase in resources of PBL. He concludes that the educational ties between PBL and educational theory and research are loose at best.

Smits, Verbeek and de Buissonje (2002) focusing on continuing medical education found limited evidence that PBL increased participants' knowledge and performance and patients' health. There was moderate evidence that doctors are more satisfied with PBL.

Dochy *et al.*'s (2003) meta-analysis of 43 articles revealed a robust positive effect of PBL on the skills of students and no single study reported negative effects. A tendency towards negative results is discerned when considering the knowledge of students, but this was reduced with the level of the student. PBL students were found to gain slightly less knowledge, but remembered more of the acquired knowledge.

Following this meta-analysis, Gijbels *et al.* (2005) went on to investigate the influence of assessment. Applying Sugrue's (1995) model of cognitive components of problem solving, they divided types of assessment into three levels: understanding concepts, principles linking concepts and application of concepts. PBL had the most positive

effects on the level, principles linking concepts and some effect on the level of application. This was found to be a significant factor in considering assessment results.

Summary

A variety of examples of the use of EBL, mainly in its PBL form, in the teaching of law have been collated and summarised. These provide arguments, examples, evaluations and reflections on the level of individual practices and for whole programme versions. The examples cover the teaching of law to both lawyers and non-lawyers.

Further evidence is provided from reviews of mainly medical education examples of PBL, which illustrate a critical debate between more sceptical views that find PBL expensive for improvements in staff and student satisfaction, and anxiety in some cases and more accepting views that demonstrate positive effects for higher cognitive levels of knowledge, skills and application of knowledge.

This should provide a useful resource for those considering teaching law through EBL.

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