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Laura's story: Using Problem Based Learning in early childhood and primary teacher education

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Abstract

Increasingly, graduates across a range of professions are required to possess the ability to critically evaluate information, solve problems and participate in collaborative group work. Problem Based Learning (PBL) is a pedagogical approach to learning that emphasises student centred engagement with real problems or situations, involving learners in active decision making processes and in using theory to inform practice. This paper reports the perceptions a group of pre-service educators had to their participation in a unit of study conducted using a PBL scenario. The paper examines issues associated with teacher education, such as skills acquisition and the notion of the 'gap' between theory and practice. The findings reported here indicate that PBL offers the opportunity for pre-service educators to participate in a learning experience that supports them in developing skills appropriate to their profession and in understanding how theory may be related to practice.

Keywords: Problem Based Learning; Teacher education; Early childhood; Primary education

1. Introduction

The use of Problem Based Learning (PBL) in Higher Education settings across a range of industrialised nations has increased during the last 10–15 years in response to changes in the global economy and work patterns (Margetson, 1994). Increasingly, graduates are required to demonstrate abilities such as the capacity to critically evaluate and/or consider information, solve problems and interact with others regardless of the nature of their professions. PBL with its emphasis on student centred learning and the application of thinking and problem solving abilities to students' learning experiences has been seen as a pedagogical tool aimed at assisting graduates in obtaining the skills now considered necessary for a successful professional post-degree experience (Dean, 1999, p. 6).

Whilst PBL itself has been used in Australian based universities and degrees, to date its use has been largely limited to the more scientifically based disciplines, including most predominately, the study of medicine (Cook & Moyle, 2002, p. 331; Margetson, 1994, p. 5). The application of PBL to the professional development of students engaged in the more humanities-based occupations; particularly teacher education is yet to receive the same degree of attention, with the literature in the field described by some authors as "scarce" (Murray-

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Harvey & Slee, 2000, p. 2). This paper reports on pre-service educators' responses to a unit of study conducted using PBL as a pedagogical approach to teacher education.

2. Theoretical background

As a pedagogical technique PBL evolved from the work conducted by Barrows and Tamblyn in the early 1980s in response to their concerns regarding the superficial nature of medical students' learning that was seen to occur in more traditional, lecture based and didactic teaching methodologies (Savin-Baden, 2001, p. 4.) Here, their concern was to assist students in acquiring knowledge that could be utilised in the immediate diagnosis (or problem solving process) associated with identifying illness in patients. Barrows and Tamblyn believed that medical students could be better served by an education that allowed them to actively participate in the identification and solving of medical problems than they could by an education in which they learned the separate systems of the body without initial reference to illness (Barrows & Tamblyn, 1980).

The concept of PBL was therefore one that centred on the nature of learning as an experience necessarily contextualised by the particular issues or 'problems' that were likely to face the trainee practitioner in his or her profession upon graduation (Edens, 2000). In this respect the philosophical underpinnings of PBL hold at its core those principles of learning articulated by the constructivist and social-constructivist views of learning and cognitive development (Charlin, Mann, & Hansen, 1998, p. 324; McPhee, 2002, p. 62). Here the belief that learning is actively constructed by learners as they interact and engage with other learners (and/or more competent peers) is manifest. In addition, the exploratory nature of PBL is likewise consonant with the constructivist belief that learning occurs most readily when it is supported by opportunities for learners to engage with ideas and materials. Therefore, as a pedagogical tool, PBL may be more readily described as an approach *to learning* than an actual teaching technique. Engel (1997) defines PBL as "an approach to structuring the curriculum which involves confronting students with problems from practice which provide a stimulus for learning" (p. 15). According to Engel this means that the emphasis in PBL "is on learning processes of enquiry which proceed by asking what needs to be known to address and improve a particular situation" (Engel, 1997, p. 16).

This means that students studying within a PBL context are required to focus their attention on the issues and constraints that comprise the problem situation and to determine how these might then be addressed. Margetson (1997) argues that "'a problem' refers to what is *problematic* about a situation; it is generally shorthand for a cluster, network or set of interrelated problems and related contextual conditions" (Margetson, 1997, p. 39, italics in original). In responding to the particular issues within a given situation students are required to operate in a manner that promotes the need for questioning, critical thinking and the synthesis of information. Hildebrand, Mulcahy, and Wilks (2001) have identified a three phrase process through which students working within a PBL scenario are likely to pass, including, (1) encountering the problem; (2) 'doing the problem'; and (3) drawing 'it all together' (Hildebrand et al., 2001, p. 10).

Teacher education is an area of education and training particularly suited to the pedagogical goals and methods involved in PBL. In this area, the focus of education has leaned increasingly towards the development of graduates who are capable of accessing, evaluating and critically appraising information for use in their own teaching and decision making processes. In addition, there has been an increased need for graduates of teacher education to be capable of interacting with a range of stakeholders involved in the process of educating young children such as, parents, school councils, various committees, other teachers and associated professionals, including educational psychologists and speech therapists. Twenty-first century teacher education therefore represents a process whereby pre-service teachers need to acquire particular skills related to their ability to practice as well as an understanding of theoretical and content knowledge as an informant to their practice (Dean, 1999, pp. 4–5). Traditionally, teacher education has focused on providing pre-service educators with a set of theoretical knowledge that is arguably relevant to the practice of teaching. However, this view has been challenged with more recent socio-cultural and humanist perspectives highlighting the manner in which pre-service educators develop a sense of identity as teachers and work to incorporate theoretical knowledge into their "working" or practical teaching experiences (Korthagen, 2004, p. 6).