Problem-Based Learning in an e-Learning Environment: A Case Study at Griffith University School of Medicine

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Summary. Increasing numbers of medical schools in Australia and overseas have moved away from didactic teaching methodologies and embraced problem-based learning (PBL) to improve clinical reasoning skills and communication skills as well as to encourage self-directed lifelong learning. In January 2005, the first cohort of students entered the new MBBS program at the Griffith University School of Medicine, Gold Coast, to embark upon an exciting, fully integrated curriculum using PBL, combining electronic delivery, communication and evaluation systems incorporating cognitive principles that underpin the PBL process. This chapter examines the educational philosophies and design of the e-learning environment underpinning the processes developed to deliver, monitor and evaluate the curriculum. Key initiatives taken to promote student engagement and innovative and distinctive approaches to student learning at Griffith promoted within the conceptual model for the curriculum are (a) Student engagement, (b) Pastoral care, (c) Staff engagement, (d) Monitoring and (e) Curriculum/ Program Review.

1 Introduction

For over 100 years most medical curricula have relied on didactic teaching in disparate subjects such as physiology, microbiology, biochemistry, anatomy, pharmacology, etc. throughout the first half of the training period often referred to as the preclinical years. These subjects were taught and assessed as independent entities with few clinical applications and no exposure to patients. During the last 30 years there has been an increasing

R.A. Tedman et al.: *Problem-Based Learning in an e-Learning Environment: A Case Study at Griffith University School of Medicine,* Studies in Computational Intelligence (SCI) **62**, 31–45 (2007)
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recognition of the need to improve the clinical reasoning skills, and communication skills as well as to encourage self-directed lifelong learning of medical graduates [1–3]. Consequently, increasing numbers of medical schools in Australia and overseas have moved away from these didactic teaching methodologies and embraced problem-based learning (PBL) to address these improvements.

In January 2005, the first cohort of students entered the new MBBS program at the Griffith University School of Medicine to embark upon an exciting, fully integrated curriculum using PBL. This curriculum combines the latest developments in information technology and state-of-the-art, purpose-built facilities supporting a modern curriculum where students begin their clinical skills activities from the beginning of semester 1 of year 1.

This chapter reviews the theoretical perspectives behind the PBL approach used in this new medical school that is located adjacent to the Gold Coast Hospital at Southport in Queensland, Australia. It will also examine the educational philosophies and design of the e-learning environment underpinning the processes developed to deliver, monitor and evaluate the curriculum.

2 What is PBL?

Problem-based learning (PBL) is a well-described method of interactive learning that has had a marked impact on higher education, especially in medical schools [4–6]. The learning focuses on patient problems as a context for students to acquire problem-solving skills and knowledge about the basic and clinical sciences [7, 8]. Students usually work in small groups, two or three times a week with a tutor who has a role of facilitator rather than a provider of content. The PBL process involves students: discussing possible hypotheses; developing strategies to test the hypotheses; collecting and analysing new information; refining their hypotheses and in doing so determining the gaps in their knowledge and understandding; and developing learning goals to direct their independent learning outside the PBL tutorials [9].

PBL has been used to describe a wide variety of educational methodologies thus compromising attempts to evaluate the evidence base for comparisons of the value of PBL compared with traditional, teacher-centred approaches [4]. PBL has many advocates who emphasise the importance of this teaching/learning method to not only increase the retention of facts and their recall in a clinical situation, but more importantly to develop skills in problem solving and self-directed study skills [7, 10].