

**Title:** Are we training our medical students to solve problems and think critically?

**Author:** David Cameron, M.B.Ch.B., M.Prax.Med., M.Phil. (Palliative Medicine)

**Context and setting:** Clinical problem solving and critical thinking are core competencies expected of all doctors. As part of an integrated problem oriented curriculum introduced in 1998 at our medical school in South Africa, these competencies form a golden thread running through the 6-year undergraduate programme. The programme consists of 30 blocks in the first 5½ years, followed by clinical rotations in all the major disciplines in the final 18 months. Assessment takes place at the end of each block or rotation. On average, 210 students graduate each year from our medical school.

**Why the idea was necessary:** Eight years experience with our new curriculum and the graduation of our second group of students provides a good opportunity to investigate how competent our graduates are at clinical problem solving and critical thinking. This project is the first part of this exploration and examines the opinions of the chairs of the curricular blocks about the nature of these competencies, how they are teaching and assessing them, and finally, how they think our current graduates compare to those from our previous discipline based curriculum.

**What was done:** Semi-structured interviews were carried out with 26 of the 30 curriculum block chairs. Their average experience in training medical students was 16.5 yrs (range: 3-35 yrs) and 5.4 yrs as the chairperson of a block in the new curriculum (range: 0.5-8 yrs). The interviews were recorded, transcribed and analysed into themes. A summary of the results was circulated to all block chairs for comment.

**Evaluation of results and impact:** In the opinion of the chairs, Clinical Problem Solving involves gathering relevant & reliable information, formulating the clinical problem and then deciding how to investigate and manage this problem. Involving the patient appropriately at all stages is regarded as an essential aspect of this process.

Critical thinking includes integrating new information into existing knowledge, being willing to question and challenge established thinking, reflecting on the strengths and weaknesses of an argument, coping with complexity and uncertainty and being able to articulate and defend one's position.

In many blocks, innovative methods are being used to encourage problem solving. These include multi-media presentations linking the basic sciences to relevant clinical scenarios, working in small groups on the meta-analysis of obstetric topics, analysis and debating of ethical dilemmas, discussions and reflective essays on end-of-life care arising from the film "Wit", role-play training in communication skills such as Breaking Bad News and brief motivational interviewing. Training in procedural and examination techniques takes place in the Skills Lab. Clinical exposure is supervised in community clinics and consultation skills are analysed using video recordings. Assessment is usually by means of an OSCE with immediate individualised feed-back.

The Block Chairs feel that the graduates of the new curriculum are displaying ample evidence of the skills of clinical problem solving and critical thinking. In many cases they feel there has been an improvement when compared to graduates of the old curriculum especially with regards to ethical reasoning.

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**Correspondence:**

David Cameron, M.B.Ch.B., M.Prax.Med., M.Phil. (Palliative Medicine)  
University of Pretoria, South Africa