

Teaching pharmacology to
non-science based healthcare
professionals.
PBL or workshops?

Iain Coleman
University of Wolverhampton

- “certainly nurses need some knowledge of pharmacology if they are fully to understand the implications of their prescribing and be aware of the long term effects”
- “thorough knowledge of the item to be prescribed, its therapeutic action, side effects, dosage, and intervention”

The problem

- Much pharmacological information is derived from a knowledge of chemistry, physiology and a range of other physical and natural sciences, quantitative methods and a reductionist approach
- Healthcare professionals demonstrate a different range of skills and find acquiring the “necessary” pharmacological knowledge at best tedious and at the worst insurmountable

However

- The healthcare professional....
- Has observed the use of drugs in a real life setting
- Therapeutic consequences of treatment will have been noted
- Patients will have complained of adverse reactions

The solution.....

Barrows (1985), who is widely credited as having synthesised modern PBL suggested,

- “learning from problems is a condition of human existence”

The cohort

- All post registration
- More than three years experience
- (in reality more than 25)
- Often had considerable experience of postgraduate education
- Skilled “networkers”

Process

- Assign groups and roles
- Exposure 1
- Exposure 2
- Summary
- Feedback

Rules of the game

- The chair is always in charge!!
- For this system to work each member of the group must feel that they have space in which to contribute. Each offering should be valued. Where there is error or change through evolution of information this should be dealt with in a positive manner.
- Group members should ensure that they strive to provide as close to an equal contribution to the resolution of the problem as possible.
- At exposure 1, no books or notes are permitted. At exposure 2, notes and photocopied articles are permitted, textbooks may be available for reference at the end of a group session.
- In view of the University's strictures with regard to plagiarism, please make it a matter of good practice to acknowledge all sources of information.

The effective facilitator

- Katz (1995) suggests the effective facilitator,
- “has been likened to that of a saint:
- unfazed by ambiguity,
- undaunted by student irritation or personal frustration,
- whilst modestly eschewing credit for the learners achievements”



Assessment

- MCQ
- Tri-partite problem solving exercise (TRIPSE)
 - Part 1 – own response to unseen problem
 - Part 2 – response to problem after discussing with colleagues
 - Part 3 – response after accessing sources of information

The result

- In terms of grades
- Mainly A and Bs (equivalent to 1st/2.1)
- Grades fairly tightly clustered

- High level of student satisfaction (though not unanimous)
- Pharmacology staff learnt a lot of pathology and clinical science

So far so good

- The new challenge
- Second year pre-registration students.....
- Far less work experience
- Far less academic experience
- Diverse range of entry qualifications

The approach

- Lecture content available on the University virtual learning environment
- In-class “set” workshops for groups
- Feedback on workshops at the end of each session
- Feedback available on the virtual learning environment

Assessment

- **Formative assessment**
- Enigmas of clinical situations with a series of structured questions

- **Summative assessment**
- A reflective account of the medicines used to treat a patient they have studied/are studying in practice.

in reality.....

- The workshops revealed that the students needed more physiology and pathology
- Despite my best efforts the session moved from being student centred to much more “teacher” focussed approach
- The work was broken down into much smaller “chunks”

unsurprisingly.....

- Students found the work challenging
- A lot of support was required for the summative assessment

however.....

- Students produced very good accounts commented upon favourably by the external examiner
- Grades clustered in A/B categories
- Module evaluation revealed that students felt that new knowledge contributed to better understanding in practice.
- Students enjoyed doing the clinical enigmas

Lessons to be learnt

- Presage is everything
- Any method of encouraging learning was a “moving target”
- Linking to clinical experience as much as possible seems like a winner
- PBL or workshops *could* be effective provided staff were not only flexible but also unfazed and undaunted