Becoming a
Problem-Based Learning student

Professor Samy A. Azer
MD, PhD (USyd), MEd (UNSW), FACG, MPH (UNSW)
Professor of Medical Education
Chair of Curriculum Development Unit, College of Medicine,
KING SAUD UNIVERSITY, Saudi Arabia
Formerly Professor of Medical Education at Universiti Teknologi MARA, Malaysia, University of Melbourne, and University of Sydney, Australia
“The teacher is a midwife to students pregnant with ideas”

- Socrates (469-399 BC)
قراءة في البصر عند اليونان واكتشاف الداء وعند العرب

البصريات العقلية لم تكن متوفرة في العصور القديمة، ولكن مع تقدم العلم، بدأ البصريات العقلية تظهر في العصور الجاهلية.

Long Class
Transfer of Information

Superficial learning
Ask Questions

Identify Learning Needs

Plan their Learning

Identify the Resources they Need

Search for Answers from these Resources

Look for Relationships

Ask New Questions

Look into the Different Aspects of the Issue

Construct New Knowledge from What they Learnt

Apply Knowledge Learnt to other Situations

Deep learning
Problem-Based Learning

Learning Pyramid

- Lecture: 10%
- Reading: 20%
- Audiovisual: 30%
- Demonstration: 50%
- Discussion: 75%
- Practice doing: 90%
- Teach others: 90%

Average student retention rates

Source: National Training Laboratories, Bethel, Maine
Educational Objectives of PBL: Integration

Integration of basic and clinical sciences.
Integration of related ethical and biopsychosocial issues.
Making links, understanding relationships, understanding concepts such as structural-functional relationships, pathogenesis and mechanisms.
Educational Objectives of PBL: Self-directed learning

Focusing on how to learn and what to learn. Enhancing Student’s skills in identifying their learning needs, search different resources, construct their knowledge, link what they have learnt to the case, become self-regulated learners.
Educational Objectives of PBL: Cognitive skills

- Identify problems.
- Generate hypotheses.
- Make an enquiry plan.
- Refine their hypotheses on the bases of evidence from history and examination.
- Interpret findings and investigation results.
- Make decisions.
- Construct a management plan.
Educational Objectives of PBL: Small group learning

Sharing ideas. Exchanging knowledge. Communicating effectively. Enhancing their listening skills. Working as a team. Building each other. Practicing peer-teaching. Learning how to focus on self and other members in the team.
Why do we need PBL?

• The need for professionals and graduates to address the changes in our communities. For example, adopting customer-centered care.

• Information explosion in all areas/disciplines and the recent developments of information technology.
Why do we need PBL?

• A need for all professionals to be competent not just in knowledge and related theories but also in a number of cognitive and non-cognitive skills - such as interpersonal and communication skills, empathy and professionalism.

• Changing organization structure and the need for multiprofessional education.

• Regardless to your profession, all of us on a daily basis face problems and we need to work out solutions.
“Reda Gamal, an 18-year-old first-year Agriculture student at a university in Riyadh, decides to participate in a state race organised by the university students’ union. It is only the second week in his course and he feels stressed. Also he is a little worried being away from his family in Medina. It is midmorning, very hot and Reda is sweating a lot during the race. About 50 minutes into the race, he suddenly collapses.”
“Reda Gamal, an 18-year-old first-year Agriculture student at a university in Riyadh, decides to participate in a state race organised by the university students’ union. It is only the second week in his course and he feels stressed. Also he is a little worried being away from his family in Medina. It is midmorning, very hot and Reda is sweating a lot during the race. About 50 minutes into the race, he suddenly collapses.”
TUTORIAL ONE (2 Hours)

Trigger

Facilitation Questions

Discussions Questions

Progress 1 (History)

Discussion Questions

Progress 2 (Examination)

Learning Issues
TUTORIAL TWO (2 hours)

Address Learning Issues

Facilitation Questions

One or two Key Questions

Progress 3 (Investigations/ or psychosocial issues)

Discussion Questions

Case closure

Reflect on their work as a group

Copyright © APT Azer 2010
What are the roles of students in PBL?

• Students learn how to apply knowledge to real-life situations, while in a traditional course they learn how to focus on factual knowledge.

• Students become producer of information (construct information), while in a traditional course they consume knowledge.
What are the roles of students in PBL?

• Students actively analyse information, while in a traditional course they accept knowledge as it is.
Discussion Questions

Nobel Laureates

Do you know a Nobel prize winner whose work has helped in understanding physiological principles related to this case. Discuss how his/her work helped in advancement of our knowledge in this area.

Students may spend 10 minutes discussing this issue. Those interested could submit a written submission to my on my email sazer@ksu.edu.sa
Keys for Successful Discussion in Problem-Based Learning Tutorials
Keys for Successful Discussion

Key 1
Maintain ground rules

“Set the ground rules and make sure it feels right.”
Gary Ambrose
Key 2
Know your roles

Groups function better when every member is aware of the different roles a group member should undertake.
Keys for Successful Discussion

Key 3
Foster group dynamics

“Doing things the same way you always have and expecting the results to be different is insanity.”

- Albert Einstein
Keys for Successful Discussion

Key 4
Ask empowering questions

“Asking a good question requires students to think harder than giving a good answer”
- Robert Fisher
Key 5

Without feedback there would be no champions

“Champions know that success is inevitable; that there is no such thing as failure, only feedback. They know that the best way for forecast the future is to create it.”

- Michael J. Gelb
Key 6

Know the roles of your tutor

“Curiosity is one of the permanent and certain characteristics of a vigorous mind.”

Samuel Johnson