

Becoming A Problem-Based Learning Student

Professor Samy Azer

MD, PhD (USyd), MEd (UNSW), FACG, MPH (UNSW)

Professor of Medical Education,

Chair of Curriculum Development and Research Unit,

Department of Medical Education,

College of Medicine

KING SAUD UNIVERSITY,

Saudi Arabia

Email: azer2000@optusnet.com.au

**“The teacher is a
midwife to students
pregnant with ideas”**

- Socrates (469-399 BC)

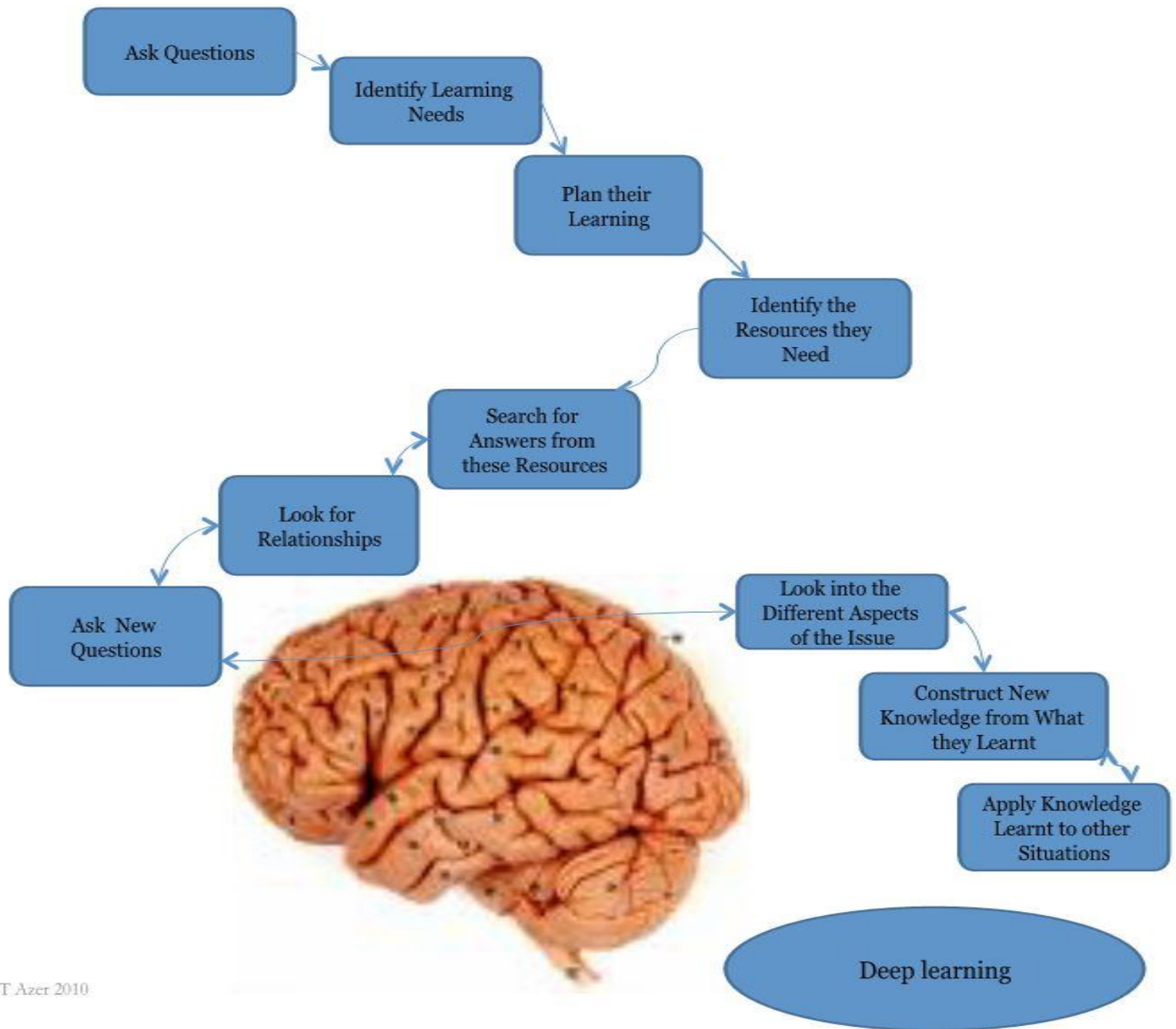
Objectives of the lecture

- Realize the rationale for PBL and why do we need PBL.
- Understand the educational objectives of PBL.
- Introduce students to the key components of PBL.
- Realize the role of students and the tutor (facilitator) in PBL tutorials.
- Focus on what makes a good student in PBL.

Transfer of
Information



Superficial
learning



Introduction to PBL (Objectives 1 to 4)

What does PBL mean?

“In PBL we use of cases to drive learning in small groups. Usually the case is discussed by students over two tutorials and is facilitated by a tutor. The purpose of the discussion is not just solving the problem but also to drive learning in basic sciences related to the case. During this process, students will discover gaps in their knowledge that they need to search to find answers to their questions”

- **Samy Azer, 2000**







Why do we need PBL?

- The development of significant changes in the health systems over the last 30-40 years.
- The overwhelming increases in knowledge and scientific discoveries.
- The need for trainees to develop a number of cognitive and non-cognitive skills to become competent in their profession.
- The need to teach basic sciences in a way that prepares students to handle clinical challenges.

Educational Objectives of PBL

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.

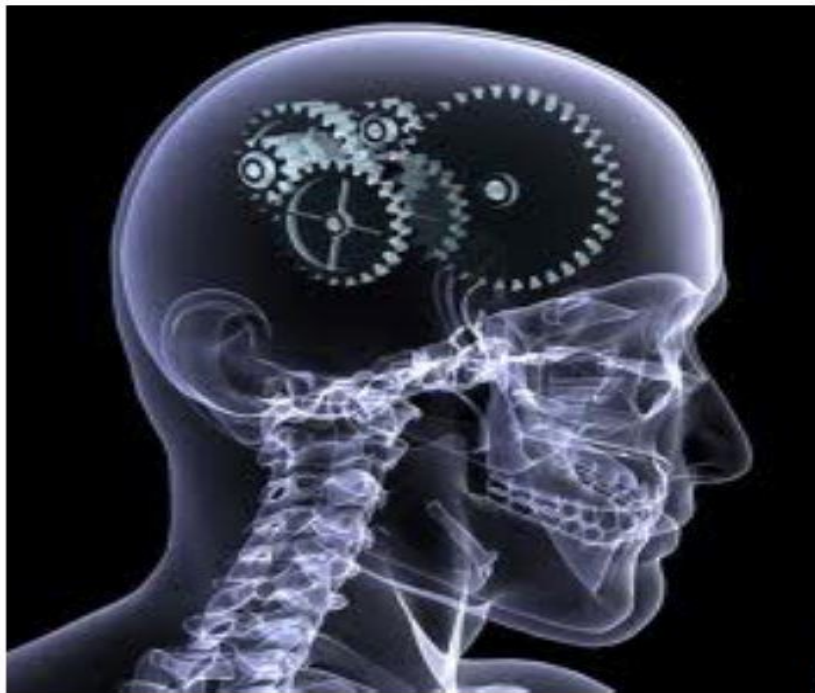
Educational Objectives of PBL: Self-directed learning



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.

Key components in PBL

- The case (problem).
- Students.
- A tutor (facilitator).
- A healthy environment (to encourage interaction).

PBL cases (Problems)

- Cases are written for students.
- They are not about a particular topic but address problems.
- Each problem is discussed in two tutorials and each tutorial is 2-hour long.
- Each case starts with a trigger followed by 3-4 questions for students to discuss in their small group.
- The case aims at enhancing students' cognitive skills, communication skills and self-directed learning..

Trigger

(40 Minutes)

“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.

”

.

Trigger

(40 Minutes)

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Task 1

What do you
think the role of
students in
PBL?



Roles of students in PBL

- Apply knowledge learnt from anatomy, physiology, biochemistry, pathology, microbiology and pharmacology to the case.
- Generate hypotheses to each problem/cue (possible causes).
- Collect information via history and clinical examination.
- Debate issues and justify their views.
- Ask open-ended questions.
- Identify their areas of their learning needs “Learning issues” at the end of tutorial 1.

Roles of students in PBL (Continue)

- Interpret findings in history and examination and lab results.
- Weigh evidence for and against their hypotheses.
- Make priorities, and group hypothesis into less likely and most likely.
- Search their learning issues and prepare for tutorial 2.
- Consider other members in the group, work as part of a team, listen to others, keep ground rules working.

Task 2

What do you
think the role of
a tutor in PBL?



Roles of a tutor (Facilitator)

- Helps the group to establish its ground rules.
- Initiates and discusses group organisation issues early in the block.
- Asks open-ended questions as needed.
- Listens to students' interaction.
- Guides the group to the right direction as needed.
- Facilitates discussion and encourage students' to contribute.
- Ensures that each member has contributed.
- Provides constructive feedback.
- Stimulates understanding and the use of whiteboard by students (Scribe).

Task 3

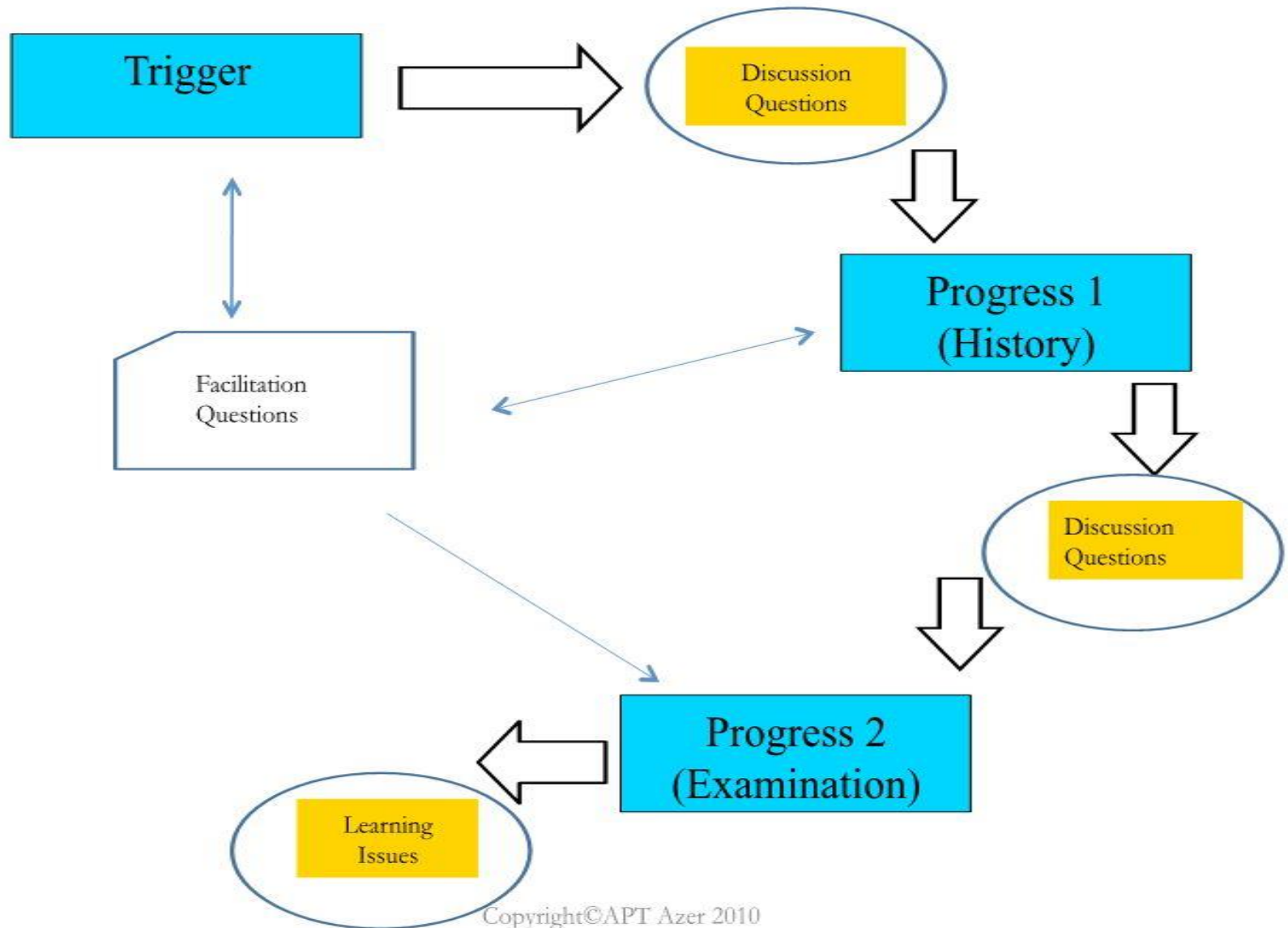
What type of environment is needed in PBL?



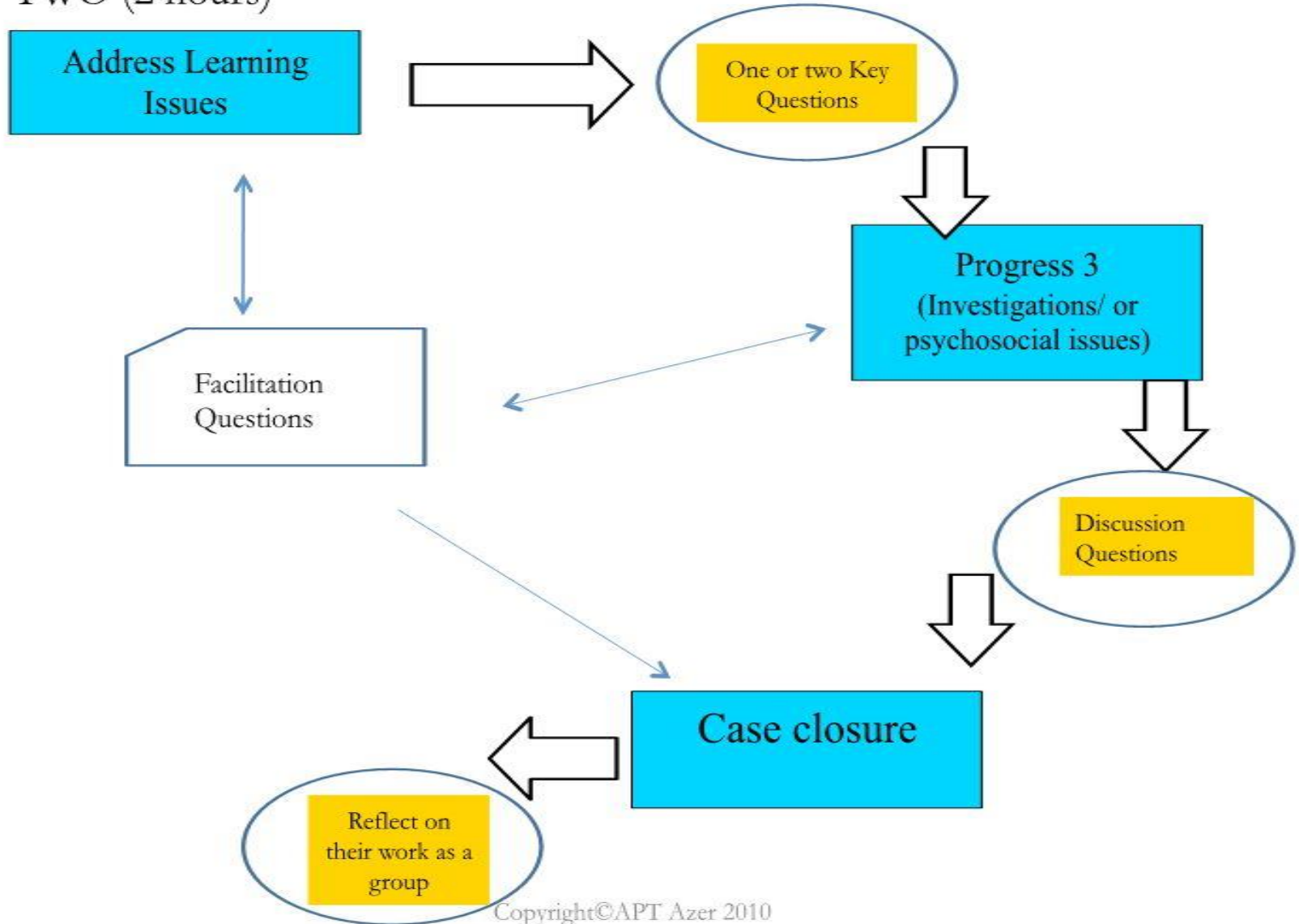
PBL environment

- Enables students to give their views.
- Encourages debating issues not arguing with each other.
- Stimulates the analysis of different views.
- Promotes thinking processes.
- Allows people to apply knowledge learnt.
- Allows people to identify gaps in their knowledge.
- Stimulates learning by discovery.
- Is facilitated by the tutor.
- Encourages student to take different roles.
- Is not dominated by a particular person.

TUTORIAL
ONE (2 Hours)



TUTORIAL
TWO (2 hours)



Keys for Success in PBL

Keys for Successful Discussion



Key 1

Maintain ground rules

“Set the ground rules and make sure it feels right.”

Gary Ambrose

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

Keys for Successful Discussion



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

Keys for Successful Discussion



Key 6

**Know the roles of your
tutor**

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

Samuel Johnson

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