

# **Interaction Between Students & Tutors**

**in Problem-Based Learning**

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# The Curriculum...

“The curriculum is not just what the Faculty plans, it also includes what students learn, practice, believe in, test, and use”

- Samy Azer and Abert Frauman, 2008

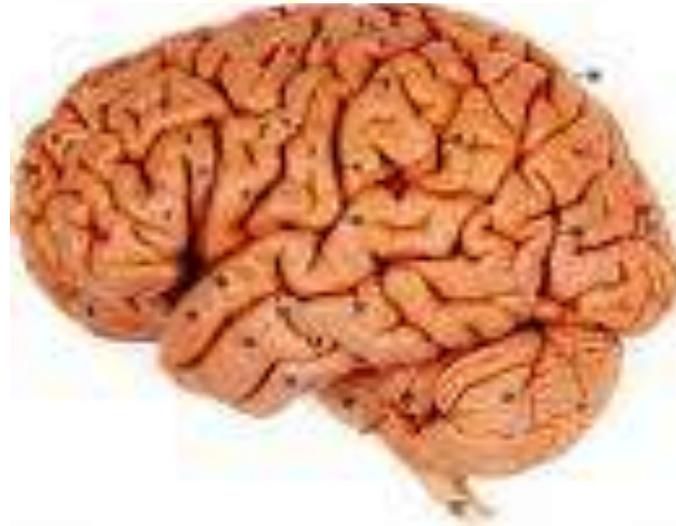


# PBL...

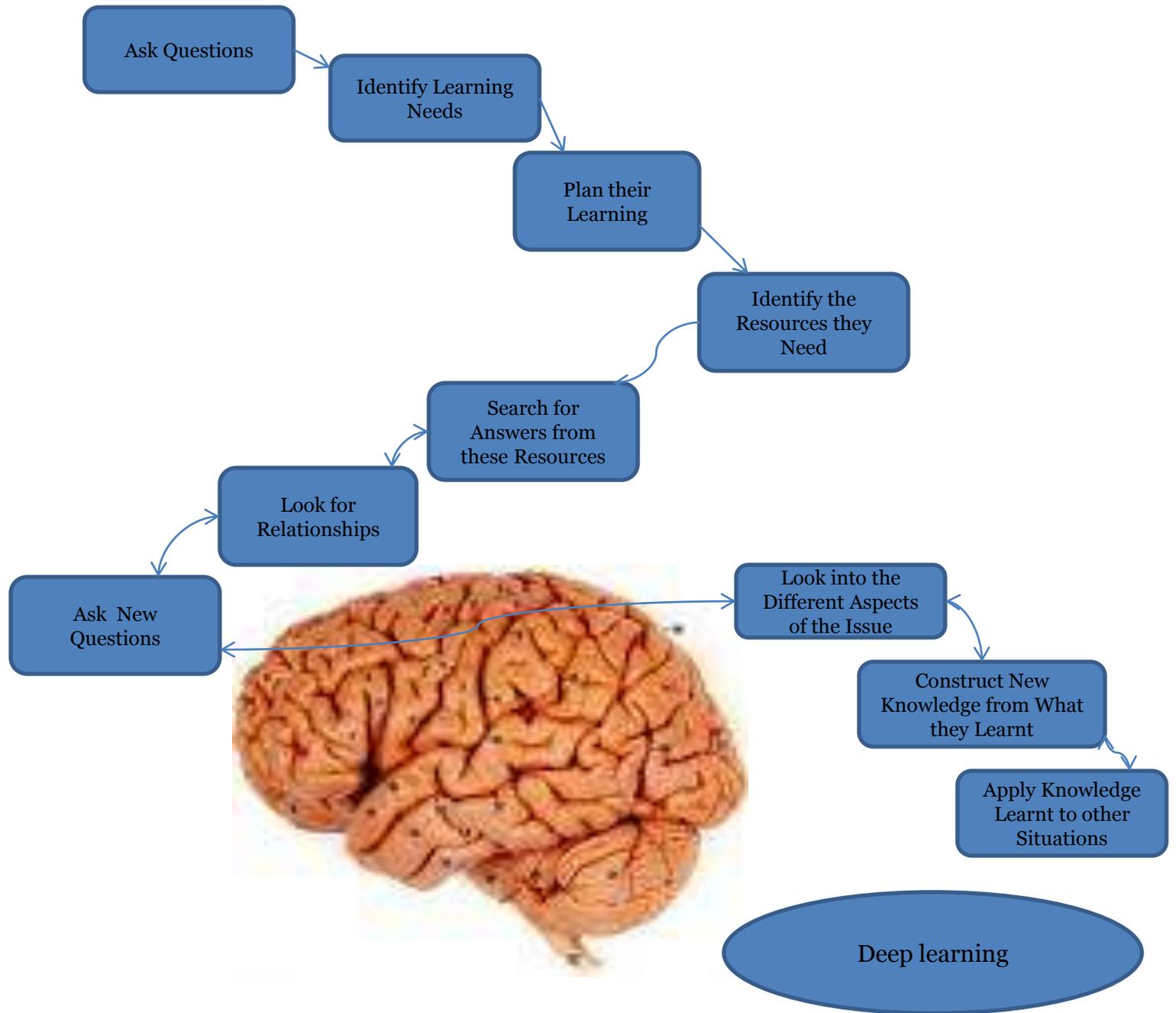
“PBL requires students to become responsible for their own learning. The PBL teacher is a facilitator of student learning, and his/her interventions diminish as students progressively take on responsibility for their own learning process.”

- **Cindy Hmelo-Silver and Howard Barrows**

Transfer of  
Information



Superficial  
learning



# Qualities of a Successful PBL Group

# Qualities of a Successful PBL Group:

- Ground rules established by members when they start their first tutorial.
- Each member aware of their role.
- Members encouraged and motivated to achieve shared goals.
- Members focused on their tasks and using tutorial time effectively.

# Qualities of a Successful PBL Group:

- A tutor who has initiated a healthy and secure environment.
- A tutor who encourages the group to maintain a healthy environment.
- A tutor who has established trust and encouraged bonding of group members.
- A tutor who acts as a role model for the group.
- Effective listening and effective communication in the group.

**What will  
ensure better  
interaction in  
PBL tutorials?**

## **KEY # 1 Students know their roles**

- When every student knows what is exactly required from them, they will work more effectively.

## **KEY # 2 Environment in the group encourages everyone to contribute**

- Teachers have to invest more time in ensuring that the environment in the group is right and students in the group feel comfortable and willing to share in the learning process.

**KEY # 3 Ground rules are continuously maintained by group members.**

■ Ground rules should be identified by members in the first tutorial. What is more important is maintaining these ground rules in place.

## **KEY # 4 Tutor is well trained in PBL facilitation**

■ Without good tutor training, and willingness of tutors to accept their new roles, PBL discussion will become mini-lectures.

## **KEY # 5 The group always has a scribe on the whiteboard**

- Keeping a record of what discussed, allows members to focus their discussion, revisit their hypotheses, and build new knowledge on what they have constructed.

## **KEY #6 The PBL case is authentic and well written**

■ In successful PBL programs, PBL cases are authentic, integrated, student-centered and written in an innovative and engaging way. The template of the cases enforces cognitive skills and deep learning.

**KEY # 7** Students use their tutor's feedback to improve their interaction.

■ Without constructive feedback, there will be no champions.

**KEY # 8** Time is allocated to each component  
/progress in the problem..

■ Each component in the case needs to be discussed. Time management is another skills that could be learnt in PBL tutorials.

# Action Verbs in PBL Tutorials

Aim ... Analyse... Apply ... Ask Questions... Associate...  
Balance... Brainstorm... Build mechanisms... Calculate...  
Categorise... Change... Check... Clarify ... Collaborate...  
Collect ... Communicate ... Compare... Compile...  
Comprehend... Concentrate... Construct ... Convey...  
Coordinate... Correct... Create... Debate... Decide...  
Define... Demonstrate... Describe... Design... Determine...  
Develop... Differentiate... Discover... Discuss... Edit...  
Elaborate ... Encode... Encourage ... Energise... Engage... Enhance  
... Evaluate... Examine... Explain... Explore... Extract... Facilitate...  
Finalise... Find out... Function... Gather... Group... Guide...  
Hypothesise ... Illustrate... Imagine... Implement ... improve... Inform...  
Initialise... Innovate... Inspire... Integrate... Internalise... Justify ...  
Learn... Listen... Locate... Manage... Map... Mentor ... Negotiate...  
Observe ... Plan ... Point out ... Organise ... Predict ... Prepare ... Presume ...  
Prove Question Rank Read Reason Receive Recognise Reflect Remember  
Research Respond Retrieve Scan Scribe Search Select Serve Set up Share ideas  
Show Solve Substitute Summarise Suppose Synthesise Target Test

# CAUSES AND SYMPTOMS OF GROUP DYSFUNCTION AND POOR INTERACTION

## Causes

1. Lack of ground rules

2. Scribe on the whiteboard not appointed

## Symptoms

- More than one student talks at a time.
- Members argue rather than debate issues.
- When there are differences in the views members tend not to show respect for other members' views.
- Not all members are involved in the discussion.
- Group members repeat what was discussed.
- Because members cannot see the list of their hypotheses, they find it difficult to refine their hypotheses or rank them.
- Members find it difficult to follow through with what was discussed.
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## Causes

3. Absence of deep learning

4. Lack of teamwork

## Symptoms

- Groups leave tutorial rooms 30-40 minutes before the designated closing time.
- Members use short cuts in their discussion.
- Members focus on diagnosis rather than discussion of important concepts.
- Members focus on factual knowledge rather than cognitive skills.
- Members do not share responsibilities.
- One or two students dominate the discussion.
- Members are not clear about their roles.
- The decisions made are not discussed.

## Causes

### 5. Poor time management

### 6. Poor facilitation

## Symptoms

- Members spent too much time on the case discussion.
  - Important tasks are not completed.
  - Members spent a lot of time on fine details.
  - Members are slow in their discussion.
  - Members do not allocate time to complete a task before they commence working on it.
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- Members find it difficult to discuss new and difficult tasks..
  - Members are not engaged and unsure about the benefits of PBL tutorials.
  - Members are not interested in the discussion.

## Causes

### 7. Lack of focus

### 8. Ineffective communication

## Symptoms

- Members spent too much time on peripheral issues.
  - Members are not able to identify their priorities.
  - Members do not focus on key issues.
  - Members are not clear about their roles.
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- Members lack listening skills.
  - Members do not build upon what was discussed.
  - Discussion at times seems to be meaningless.

## **EXAMPLE #1: WHAT WOULD YOU DO IF YOU WERE THE TUTOR?**

Your group knows that you specialize in the topic under discussion. The case they are discussing today is related to your area of expertise. The group seems to be unable to discuss the case with the depth needed. Their discussion is slowing down with no progress. You ask them a question, hoping to fuel the discussion, but they look at you and ask for the answer. Because time was wasted and you want the group to catch up, you answer them briefly. Two of the students ask you more questions in relation to the issue they are discussing. One of them says to you, “You know all this stuff, don’t you?”

## **EXAMPLE #2: WHAT WOULD YOU DO IF YOU WERE THE TUTOR?**

Students in the group may find it difficult to refine their hypotheses. They might ignore evidence collected via medical history and clinical examination and start guessing. Their hypotheses for upper abdominal pain are: (1) peptic ulcer (2) biliary colic (3) acute pancreatitis (4) basal pneumonia (5) heart attack.

## **EXAMPLE #3: WHAT WOULD YOU DO IF YOU WERE THE TUTOR?**

Students are discussing three problems in a trigger: (1) upper abdominal pain (2) vomiting and (3) dark urine. They included the following hypotheses (causes) for the first problem:

- Peptic ulcer
- Food poisoning
- Angina

They were unable to find more causes. They moved to the second problem but the tutor stopped them and asked, “What else could cause upper abdominal pain?” Students were silent for a while then two of them started guessing. Most of the answers were not correct. They became unable to progress and one of them said, “We do not know. We might consider this as a learning issue”.

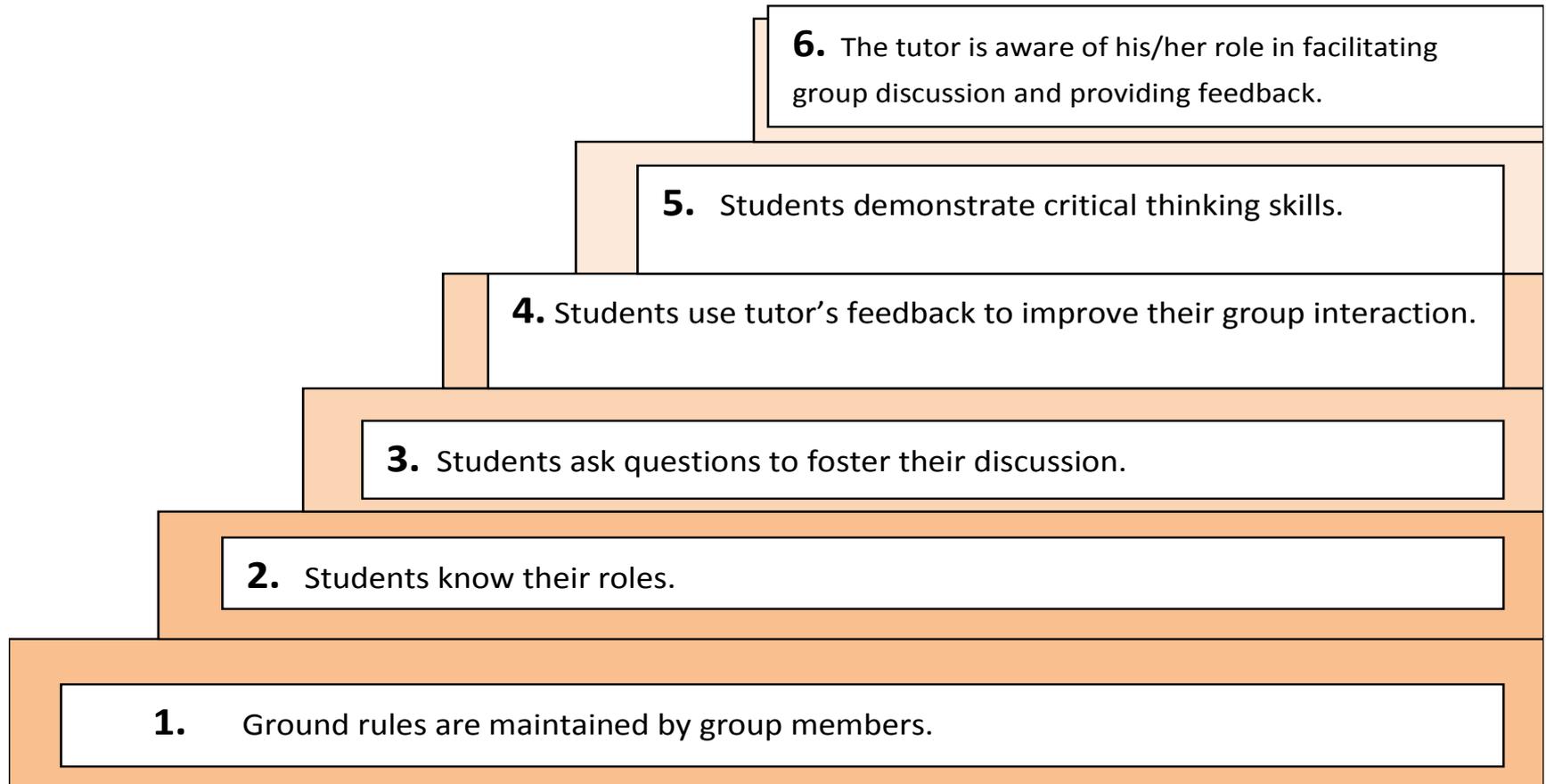
## **FACILITATION QUESTIONS**

1. Finding Contributing Factors.
2. Reasoning Knowledge.
3. Using Lateral Thinking.
4. Source of Knowledge.
5. Factual Knowledge.
6. Procedural Knowledge.
7. Interpretation Knowledge.
8. Task-Based Knowledge.

# FACILITATION QUESTIONS

## QUESTIONS TO FACILITATE PBL DISCUSSION: TYPES, EXAMPLES, AND AIMS

Questions	Examples	Aims
Finding contributing factors	<p>What are the factors that could have contributed to the appearance of his/her pain after the birthday party?</p> <p>How could these factors trigger his/her pain?</p>	<p>Assess the possible external and internal changes that could be playing a role.</p> <p>Help in deciding which body system is involved</p> <p>Help in developing the mechanisms</p>



## **THE SIX STEPS FOR EFFECTIVE STUDENT TUTOR INTERACTION IN PBL**



Did you smile today ?

Thank You