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Professional Development Program in Health Professions Education

BIMHSE LUNCHTIME SEMINAR SERIES

Facilitation and questioning skills in small group learning

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BIMHSE

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OUTLINE

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Theory

- How do scholarship and empirical evidence inform the effectiveness of small group teaching?
- What are the facilitation techniques you really need?

Practice

- How do you navigate different situations to achieve learning goals?
- How do you manage the diverse characteristics of participants?

Q & A

- Take-home messages

At the end of this session, you will be able to:

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01

Understand theoretical and practical principles of effective facilitation.

02

Harness questioning and facilitation techniques to promote students' critical thinking and engagement.

03

Handle different situations and manage the diverse characteristics of learners to achieve learning goals.

How is learning constructed?

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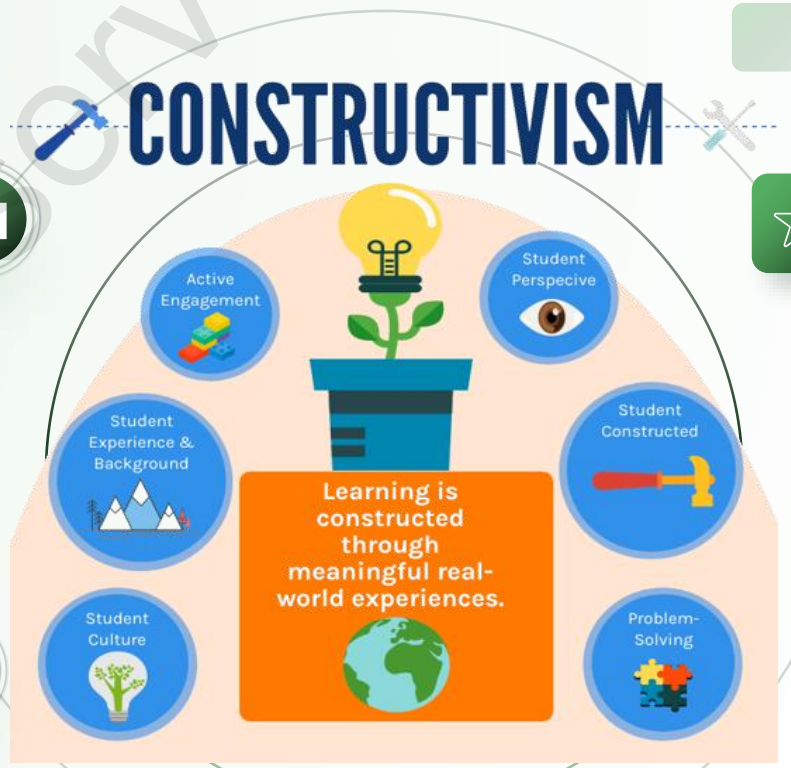
Lev Vygotsky, 1978

Social Constructivism

01 Knowledge is constructed through human activity and interaction.

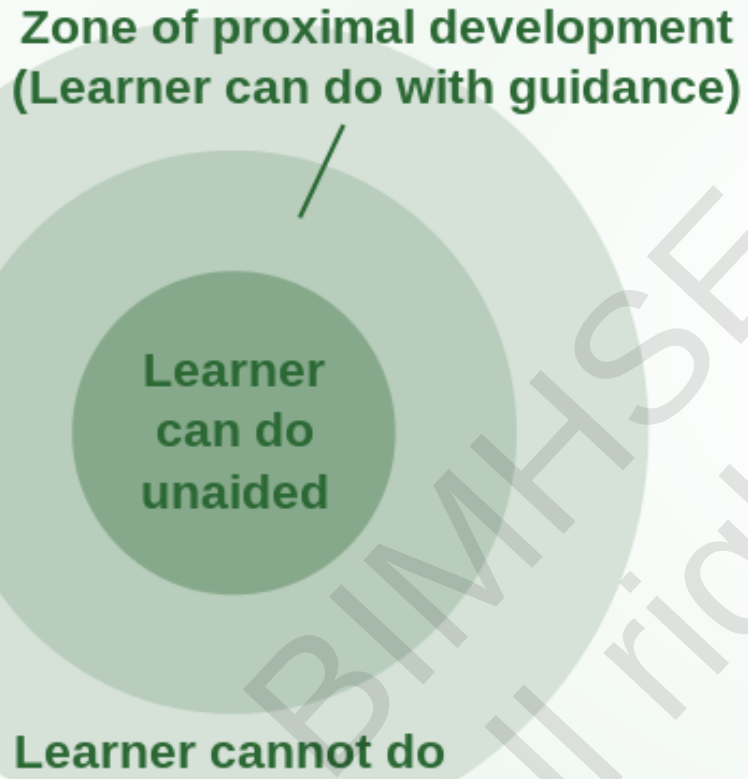
02 Learning is a social process that involves collaboration, negotiation, and reflection.

03 Learning is an active process, and students need active engagement.



Role of Tutor

It is the range where the learner is able to perform, but only with support from a teacher.



'facilitate' the learning:

1. lead the discussion
2. ask questions
3. guide the process
4. ensure active participation from students

Sweet et al., 2013

- Not a content expert
- Not an information provider
- Not to lecture

What is the difference?

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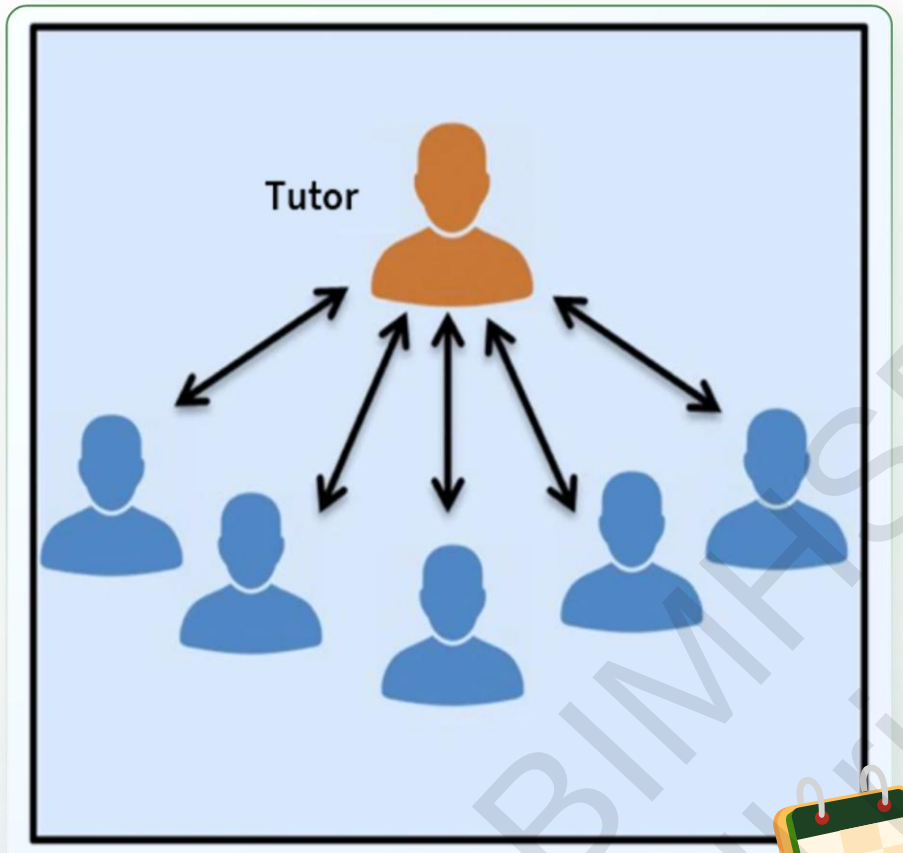

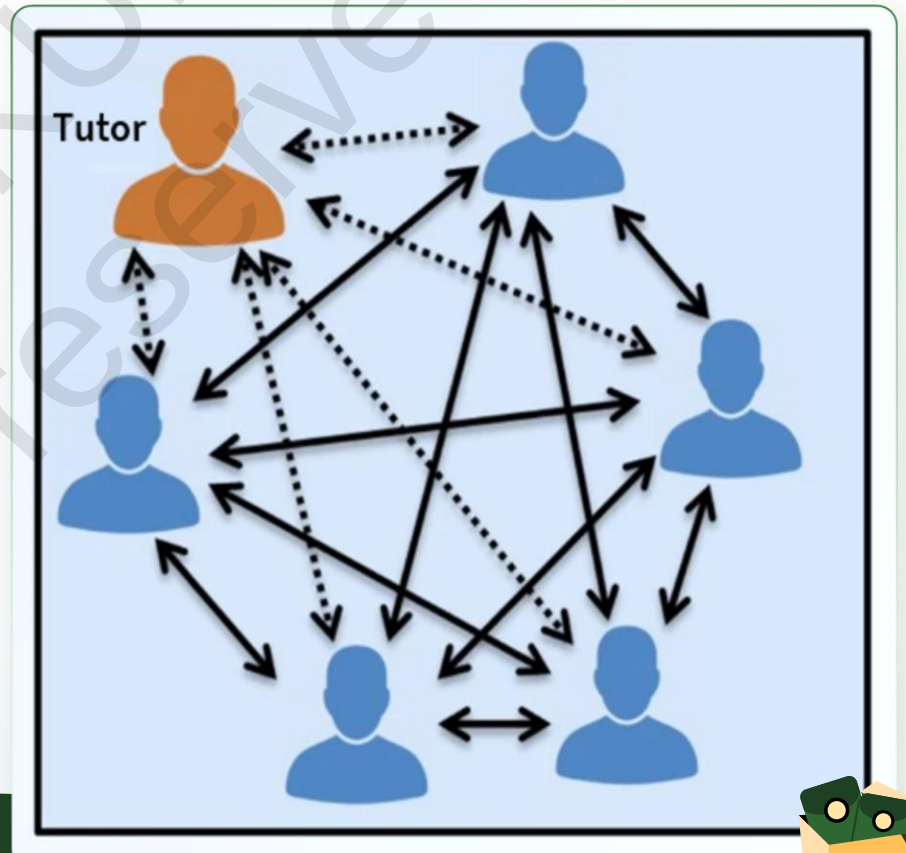

Adapted from McKimm & Morris, 2009

Difference of Effectiveness

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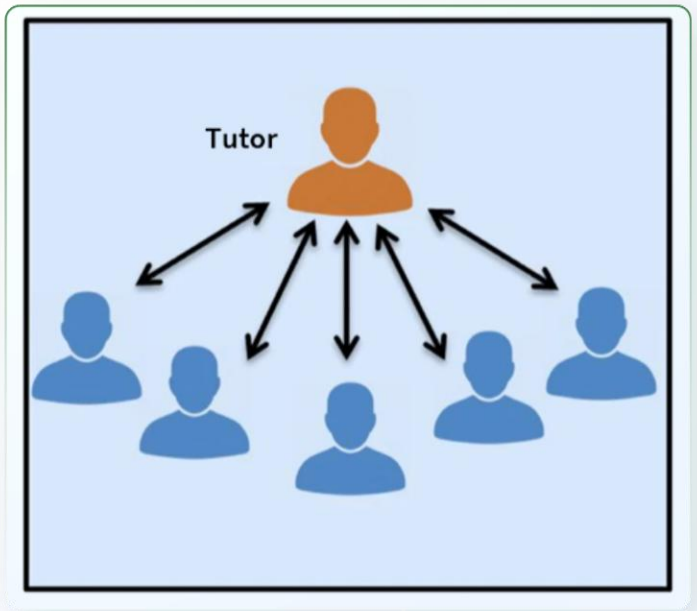

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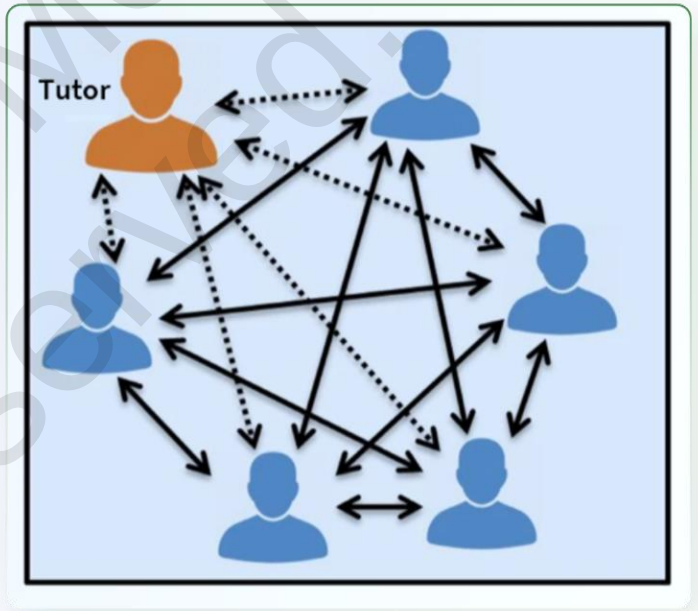

Didactic interactions between the tutor and individual learners.

The small group is not working.
This is a 'lecture' with no interaction between learners.

Multiple, active interaction between the tutor, individual learners and their peers.

The small group is working well, with lots of interaction between learners and the tutor, but the tutor does not have a dominant role.

Duties of Tutor

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- Setting clear goals/expectations at the start of the session.
- Facilitating the session and ensuring it runs on time.
- Maintaining the flow, ensuring a logical sequence of learning, and provision of stimulating material and questions.
- Questioning students to check their understanding and developing their critical skills.

- Allowing students to engage with a range of perspectives from their peers.
- Clarifying areas that may cause misunderstanding or confusion for students.
- Providing effective feedback.
- Managing the group dynamics, including resolving conflict and unprofessional behaviour.
- Critical reflection and lesson evaluation at the conclusion of the teaching session.

Example: Empirical Evidence

Burgess *et al. BMC Medical Education* (2015) 15:17
DOI 10.1186/s12909-015-0303-8

BMC Medical Education

RESEARCH ARTICLE Open Access

Role modelling of clinical tutors: a focus group study among medical students

Annette Burgess[1*], Kerry Goulston[2] and Kim Oates[2]

Abstract

Background: Role modelling by clinicians assists in development of medical students' professional competencies, values and attitudes. Three core characteristics of a positive role model include 1) clinical attributes, 2) teaching skills, and 3) personal qualities. This study was designed to explore medical students' perceptions of their bedside clinical tutors as role models during the first year of a medical program.

Methods: The study was conducted with one cohort (n = 301) of students who had completed Year 1 of the Sydney Medical Program in 2013. A total of nine focus groups (n = 59) were conducted with medical students following completion of Year 1. Data were transcribed verbatim. Thematic analysis was used to code and categorise data into themes.

Results: Students identified both positive and negative characteristics and behaviour displayed by their clinical tutors. Characteristics and behaviour that students would like to emulate as medical practitioners in the future included:
1) Clinical attributes: a good knowledge base; articulate history taking skills; the ability to explain and demonstrate skills at the appropriate level for students; and empathy, respect and genuine compassion for patients.
2) Teaching skills: development of a rapport with students; provision of time towards the growth of students academically and professionally; provision of a positive learning environment; an understanding of the student curriculum and assessment requirements; immediate and useful feedback; and provision of patient interaction.
3) Personal qualities: respectful interprofessional staff interactions; preparedness for tutorials; demonstration of a passion for teaching; and demonstration of a passion for their career choice.

Conclusion: Excellence in role modelling entails demonstration of excellent clinical care, teaching skills and personal characteristics. Our findings reinforce the important function of clinical bedside tutors as role models, which has implications for faculty development and recruitment.

Keywords: Role modelling, Medical students, Clinical tutors

Background

Role modelling has been described within medical education as the process in which "*Faculty members demonstrate clinical skills, model and articulate expertise thought processes and manifest positive professional characteristics*" [1]. There are three interrelated learning environments where role modelling takes place, including the formal, informal and hidden curriculum [2]. Through role models, medical students develop their professional competencies, values and attitudes [3]. The characteristics of a positive role model can be separated into three core areas: 1) clinical attributes; 2) teaching skills; and 3) personal qualities [4-6].

Clinical attributes

In order to be regarded as a role model by students, an outstanding level of
as a patient
Humanistic beh
butes such as
predominant
and Caresse (20

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Positive and negative role modelling characteristics and behavior identified by medical students

Example: Clinical Attributes

Behavior identified by students as positive (they would like to emulate in the future)	Behavior identified by students as negative (they would not like to emulate in the future)
Good knowledge of general medicine	Inability to impart knowledge at the student level
Articulate history taking skills	Talking about patients without respect
Ability to explain and demonstrate clinical skills at appropriate student level	Lack of empathy or compassion patients
Empathy, respect and genuine compassion for patients	"Fake" empathy or compassion for patients

Example: Teaching Skills

Behavior identified by students as positive (they would like to emulate in the future)	Behavior identified by students as negative (they would not like to emulate in the future)
Development of a rapport with students	Lack of time for students within and outside of tutorials
Provision of time towards the growth of students academically and professionally	Poorly structured tutorials
Provision of a positive learning environment	Humiliation of students
Structured tutorials with clear expectations	Poor understanding of the curriculum and assessment requirements
An understanding of the curriculum and assessment requirements	Lack of meaningful feedback
Immediate and meaningful feedback	Lack of patient interactions
Provision of patient interaction	

Example: Personal Qualities

Behavior identified by students as positive (they would like to emulate in the future)	Behavior identified by students as negative (they would not like to emulate in the future)
Respectful interdisciplinary interactions	Lack of preparation for tutorials
Preparedness for tutorials	Lack of enthusiasm for teaching
Punctuality	Negative regard for the medical profession
Enthusiasm for teaching and the subject	
Demonstration of a passion for their career choice	

Example: Clinical Attributes

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Behavior identified by students as positive (they would like to emulate in the future)	Behavior identified by students as negative (they would not like to emulate in the future)
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• Empathy, respect and genuine compassion for patients	• “Fake” empathy or compassion for patients

Example: Teaching Skills

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Example: Personal Qualities

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Group Development Roadmap

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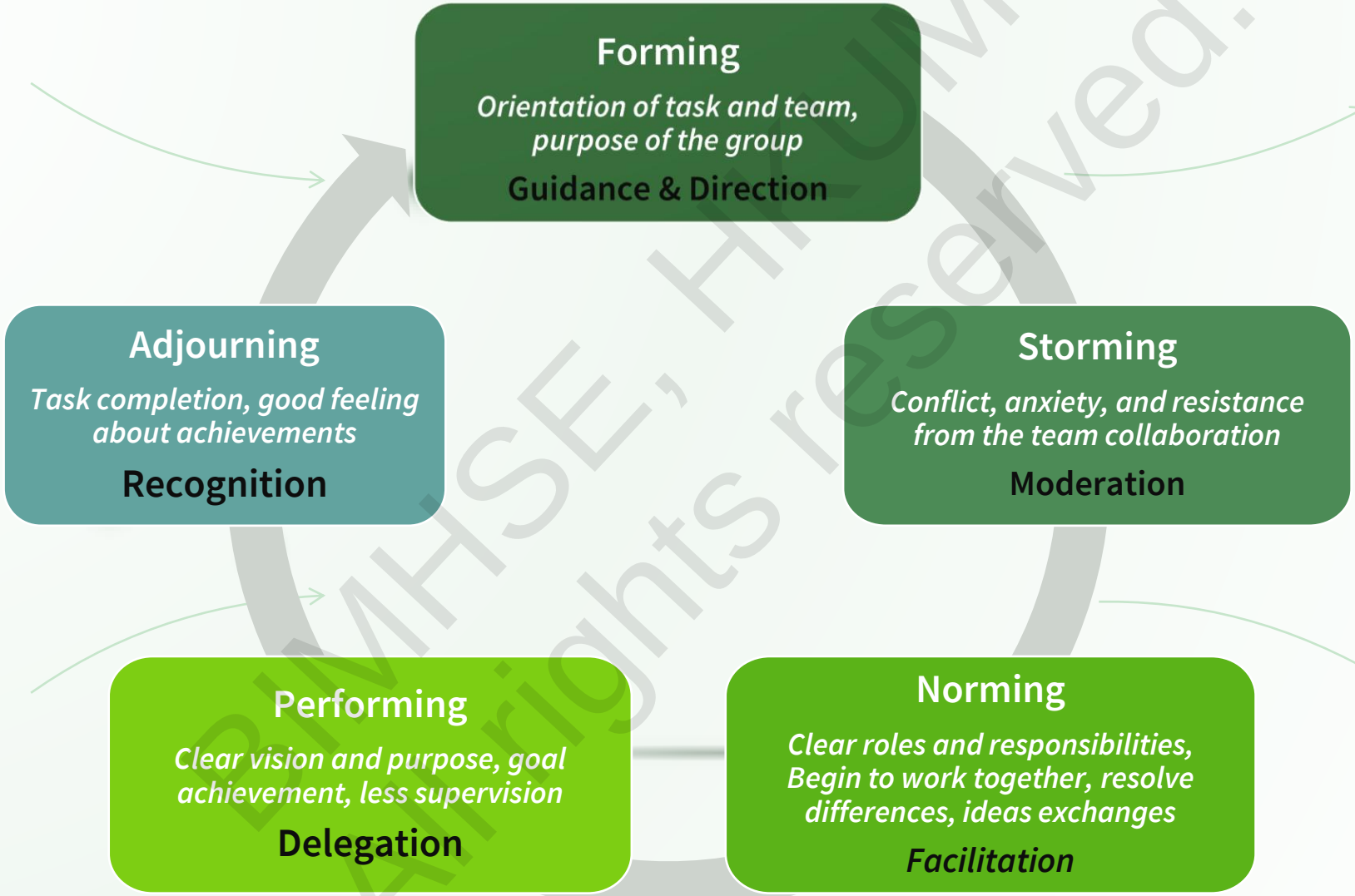

Tuckman's framework, 1965

Five Ways to Get a Grip on Small Group Learning

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01 Positive Interdependence

- Individual success depends on group success, with all members valued and needed.
- Tutors cultivate this by defining expectations, assigning roles, and providing time to think.

02 Promotive Interaction

- Give learners a clear reason to work as a team.
- Ensure the group can do it better than individuals.
- Have groups develop a product (e.g., care plan, research protocol).

03 Individual & Group Accountability

- Everyone is held responsible for contributing a fair share to the success of the group.
- Evaluate contributions of each member.

04 Interpersonal & Small Group Skills

- Intentionally teach team skills.
- Teach and reinforce skills used by effective teams.
- Encourage team and individual reflection on teamwork and contributions.

05 Group Processing

- Include meaningful debriefing.
- Group members analyze their actions and evaluate the group process and product to improve.
- Make reflection part of the assignment.

D'Eon, M., & Zhao, R. (2022)

Facilitation Skills

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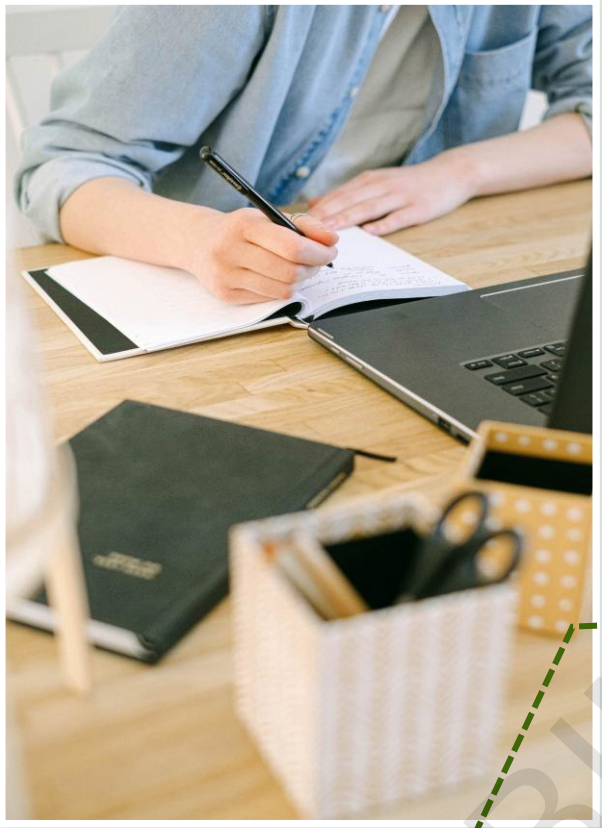
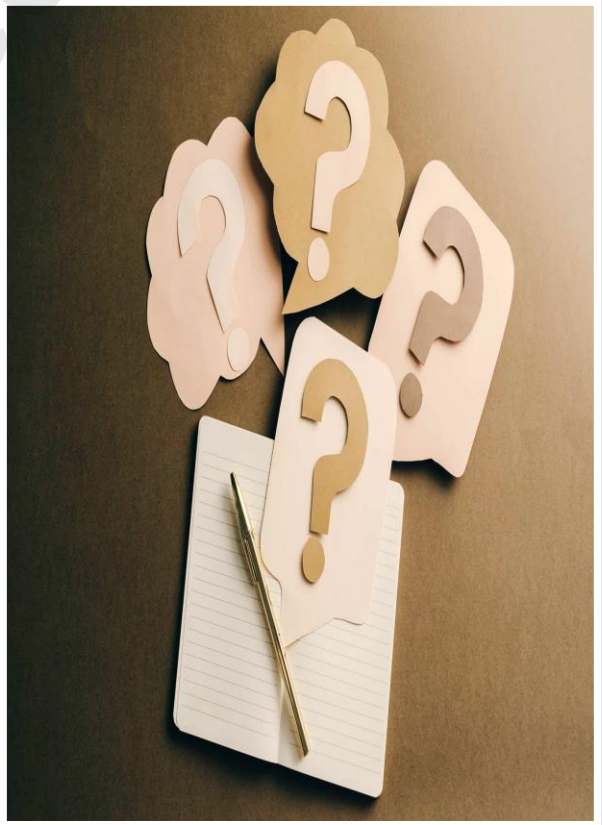


Statement | **Question**

- Regulatory statements
- Non-regulatory statements
- Closed/short-answered questions
- Open/long-answered questions
- Task-oriented questions



Collaborative Knowledge Construction

Hmelo-Silver & Barrows, 2008

Facilitation Skills

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"If we want to ask questions that get students thinking then we have to think about the questions we are going to ask."

Brown and Atkins, 1998

Importance of Questioning & Facilitation Skills

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01 Enhance Clinical Reasoning and Critical Thinking
—Phillips et al., 2017

02 Promote Active Learning
—Kitchen, M., 2012

03 Improve Communication Skills
—Harvey et al., 2002

04 Encourage Reflection
—Harvey et al., 2002

05 Foster Collaborative Learning Environment
—Balasubramanian, 2023

How the Use of Questions Can Help Promote Synthesis of Information

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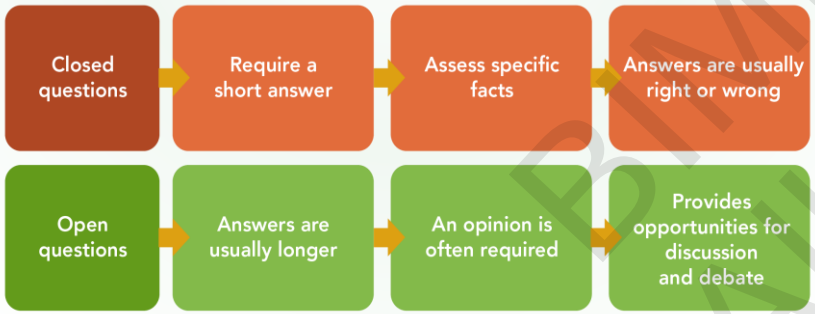
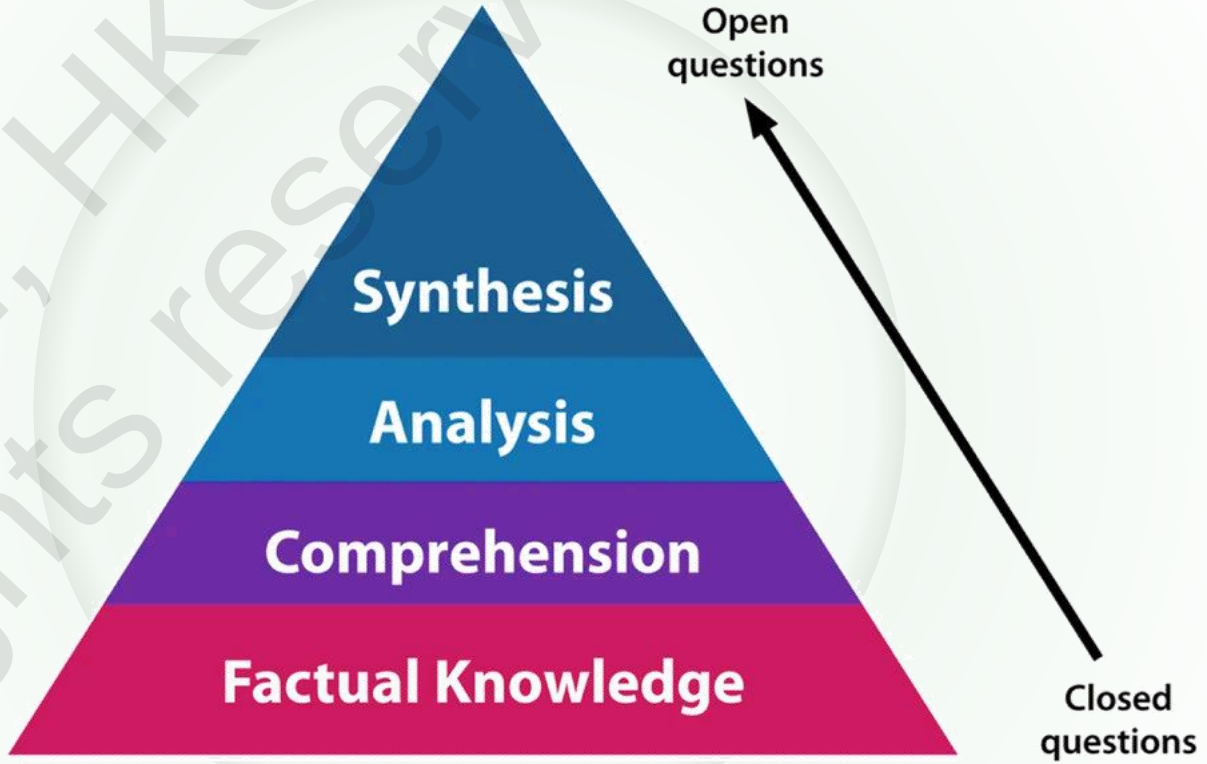
Closed questions: specific answer, check the knowledge of the learner, but not their level of understanding.

Open questions: generally no 'right' answer and to probe further asking 'why' and 'how' type questions. This requires a good understanding of the topic, thinking skills, and problem solving.





Closed/Short-Answered Questions

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Question Type	Description	Example
Verification	Yes/no response to factual question	Are headaches associated with high blood pressure?
Disjunctive	Require a simple decision between two alternatives	Is it all the toes? Or just the great toe?
Concept Completion	Filling in the blank or the details of a what supplies the bottom of the feet?	What supplies the bottom of the feet? Where does that come from?
Feature Specification	Determine qualitative attributes of an object or situation	Could we get a general appearance and vital signs?
Quantification	Determine quantitative attributes of an object or situation	How many lymphocytes does she have?

Open/Long-Answered Questions

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Question Type	Description	Example
Definition	Determine meaning of a concept	What do you guys know about pernicious anemia as a disease?
Example	Request for instance of a particular concept or event type	When have we seen this kind of patient before?
Comparison	Identify similarities and differences between two or more objects	Are there any more proximal lesions that could cause this?
Interpretation	A description of what can be inferred from a pattern of data	You guys want to tell me what you saw in the peripheral smear?
Enablement	Asks for an explanation of the object, agent, or processes allows some action to be performed	How does the involvement of veins produce numbness in the foot?
Causal Antecedent	Asks for an explanation of what state or event causally led to the current state and why	What do you guys know about compression leading to numbness and tingling? How that happens?
Causal Consequence	Asks for an explanation of consequences of event/state	What happens when the neuron is demyelinated?
Expectational	Asks about expectations or predictions (including violation of expectation)	How much better are her neural signs expected to get?
Judgmental	Asks about value placed on an idea, advice, or plan	Should we put her to that trouble, do you feel, on the basis of what your thinking is?

Task-Oriented Questions/Process-Related Talk

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Question Type	Description	Example
Group Dynamics	Lead to discussions of consensus or negotiation of how group should proceed	So Megan, do you want to share with us?
Monitoring	Help check on progress, requests for planning	Um, so what did you want to do next?
Self-Directed Learning	Relate to defining learning issues, who found what information	So might that be a learning issue that we can take a look at?
Need Clarification	The speaker does not understand something and needs further explanations or confirmation of previous statement	Jonathan are you talking about micro vascular damage which then cause the neuropathy?
Request/Directive	Request for action related to PBL process	Why don't you give Jonathan a chance to get the board up?

Example: Empirical Evidence

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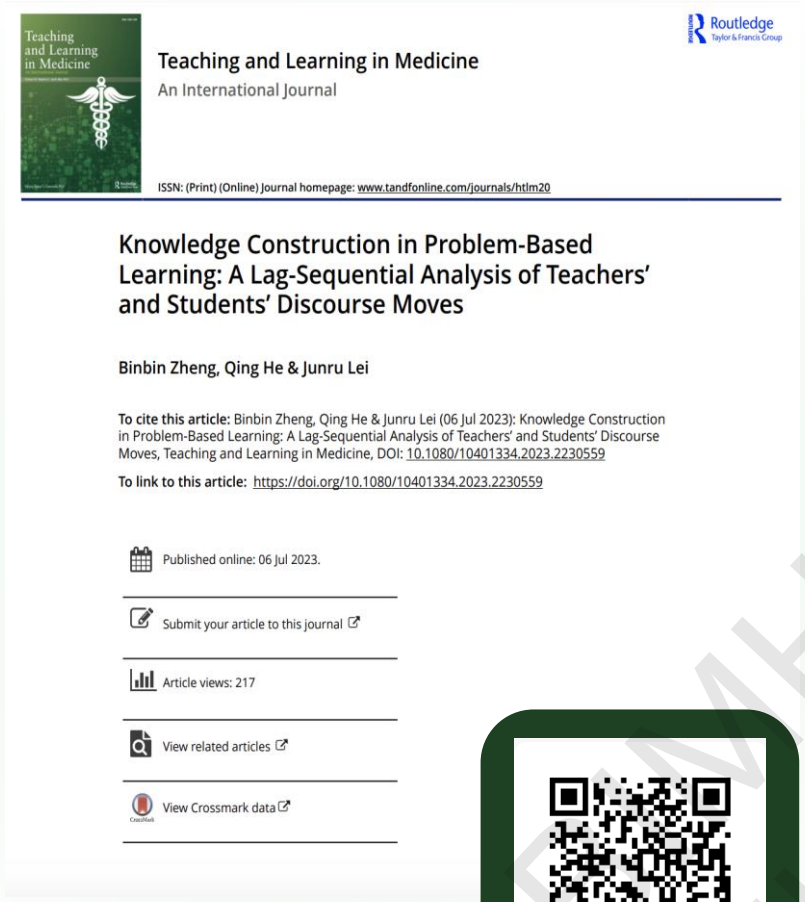

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Knowledge Construction in Problem-Based Learning: A Lag-Sequential Analysis of Teachers' and Students' Discourse Moves

Binbin Zheng, Qing He & Junru Lei

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Conjunction probing questions with clarification

- Teachers' questions → students' lower-level thinking (i.e., elementary clarification and in-depth clarification) → teacher made statements (e.g., explanation or clarification) & asked follow-up questions → students' higher-level thinking (i.e., inference, judgment, and application)

Importance of student higher-order thinking responses

- Students' higher-order thinking responses could lead to responses by their peers that also reflected higher-order thinking.

Effective Questioning in Practice

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- **Ask for more evidence**
  e.g., What evidence is there to support that?
- **Ask for more details**
  e.g., Can you give me an example? Does it apply to another scenario?

- **Explore additional ideas**
  e.g., What else might you consider? How might this change if…
- **Clarify reasoning**
  e.g., Why do you think that approach works?

Helping diagnose learning needs
Encouraging problem solving & reflection

- **Encourage students to build on one another's response**
  e.g., Is there any connections between what you've just said and what Lily said earlier?

- **Follow-up with reflective questions**
  e.g., Why do you suppose…What did you learn from this discussion?

- **Summary and synthesis**
  e.g., What are we still uncertain about?

Non-Regulatory Statement

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Preparation, generation, exploration, and elaboration of ideas

Explanation/clarification	Restate/rephrase student statements	Prompts	Stress the important points	Redirect conversation
EXAMPLE				
"So that the full cycle would be roughly for a sleep cycle [...]. That would be one cycle and you will repeat the cycles throughout the night."	*"So let me just tell you what [student name] said, okay? When you have [...]"*	*"Let's pay more attention to the pattern, not the amplitude."*	*"I think that's quite important, so that means [...]"*	*"It's a related condition, but not exactly. So, it's able to differentiate restless leg syndrome and period leg movements, versus obstructive sleep apnea."*

Regulatory Statement/Social-Related Talk in Small Group Learning

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Regulatory statements are not content-related, and instead promote collaboration and communication.

Burbules, 1993

Regulatory statement

1. Verbal: compliment/encouragement/affirmation
"*So yeah, very helpful.*" "*Exactly!*"
2. Sense of humour
3. Non-verbal: active listening, nodding

Social congruence

- Tutors' interpersonal qualities such as the ability to communicate empathetically with students.
- Influence student learning even more than tutors' content expertise and facilitating skills.
- Creating a positive and open atmosphere in which students can freely express their ideas.

ten Cate, et al., 2007, Chng et al., 2011

Cynthia Yue

Silence

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Positive functions of silence

- Recall long-term and short-term information
- Digest and look for additional information
- Generate new ideas

Jin, 2014

Pose (question to whole group) → **Pause** (allow thinking time) → **Pounce** (select someone by name)

Ps of questioning adapted from Lake, Vickery, Ryan, (2005)

Psychological Safety

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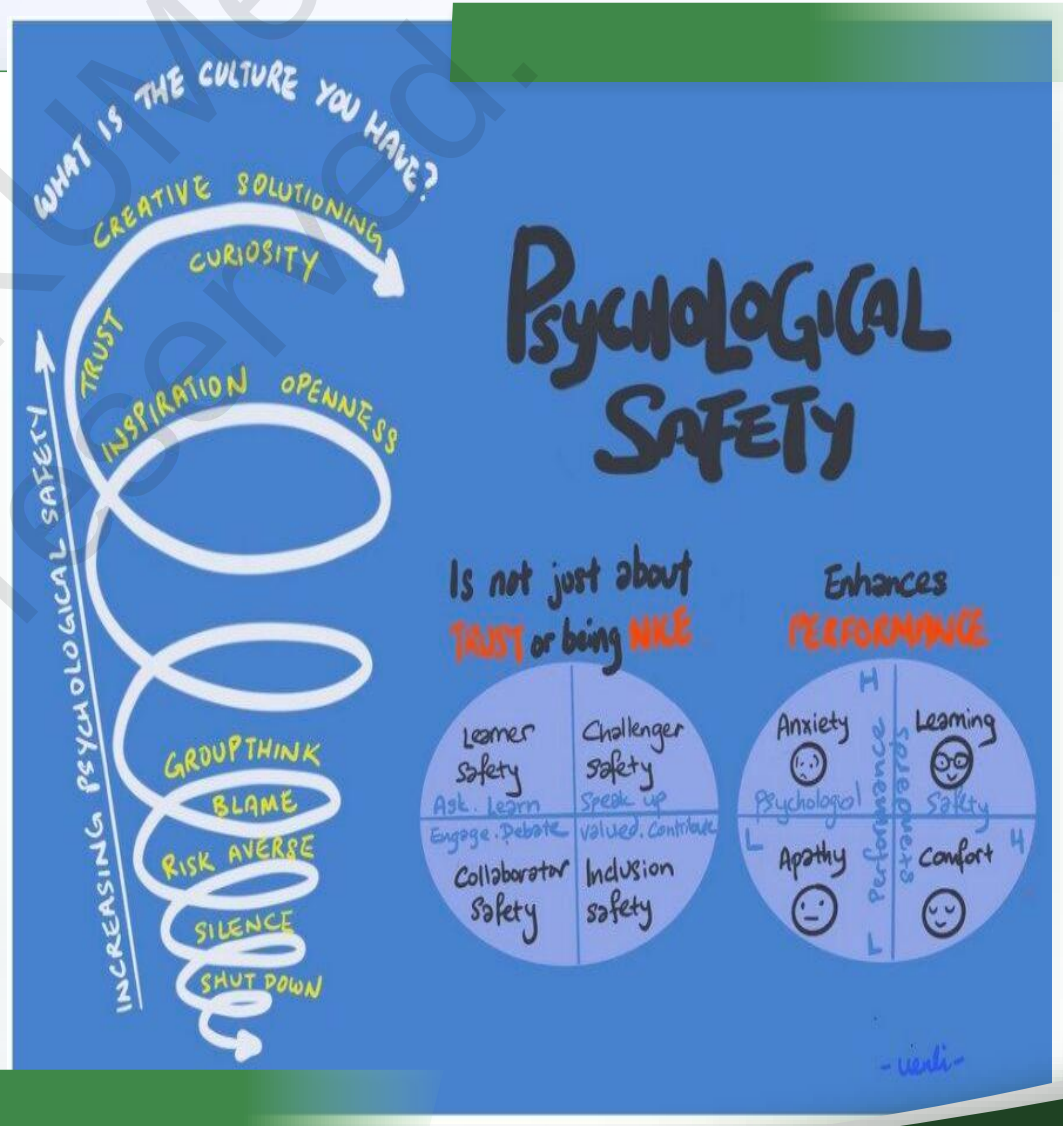
Probe (to explore, to question further) but not prod (to poke, to push)

- Questions are asked at an appropriate level for the learners-Identify learners' competency.
- Allow learners to say 'I don't know'.
- Criticize ideas, not individuals.—Feel free to disagree, but express your disagreement in a respectful manner.
- Clarify learning expectations, individualize appropriate learning goals.



Teaching Repertoire in Small Group Learning

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Has a wide range of skills in the teaching repertoire:

McCrorie, 2006

Reflection

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Description
What actually happened?

Feelings
What emotions came up?

Evaluation
What went well? What didn't go well?

Analysis
What factors contributed? Is it part of a pattern? What was the context?

Conclusion
What would you change? What lessons have you learned?

Action plan
What steps will you take next? Do other factors need to change too?

Gibbs' reflective cycle

This reflective process helps us to acknowledge reactions, explore underlying causes, and plan for further development.

Case Scenario

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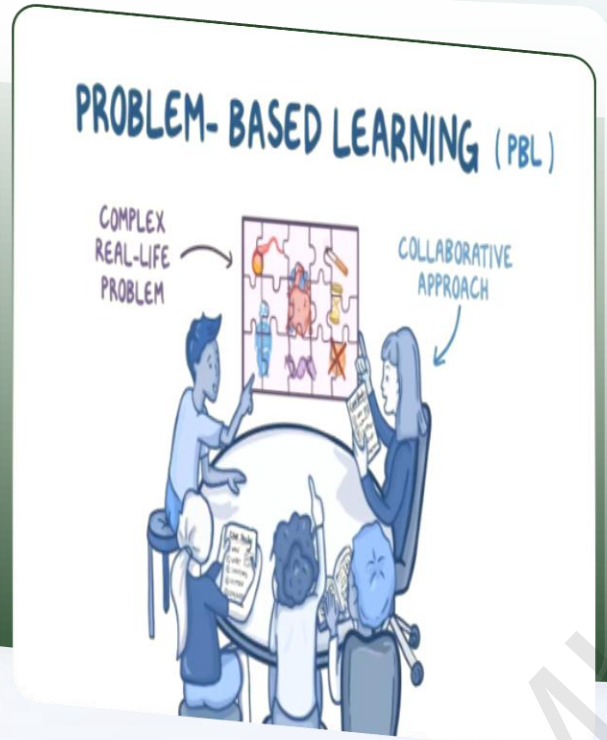

PBL Tutorial for First Year First Semester Medical Students

Case Scenario

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- Ah Wai, a first-year Computer Science student at HKU, has been actively participating in residential hall activities since attending the orientation camp eight months ago.
- He often stays up until 2 or 3 AM to complete coursework, relying on energy drinks, fizzy drinks, and snacks to stay awake.
- Consequently, Ah Wai has gained 10 kg and now experiences shortness of breath when climbing stairs.
- He struggles to fit into many of his clothes, which has caused him to become self-conscious and less confident when socialising with friends.
- Seeking advice on how to quickly return to his original weight of 70 kg, A Wai consults you, a medical student. He is 172 cm tall, with a waist circumference of 86 cm and a hip circumference of 76 cm.

Case Scenario

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01

FIRST

How to effectively facilitate students to expand their scope of discussion for basic medical science subjects?

02

SECOND

What will you do when the discussion strays away from the topic or goes on to the wrong track?

03

THIRD

The group is so quiet!

04

FOURTH

Internet/AI: to be or not to be

Case Scenario

- Ah Wai acknowledges that he has a chubby face, which he finds endearing since his grandmother always tells him so, and a famous Hong Kong boy band star also has similar appearance.
- He wonders why being plus-sized should be a concern.
- As a medical professional, you explain the potential health risks associated with being overweight and recommend that Ah Wai visit the Institute of Human Performance (IHP) at HKU to gain further insight and guidance on maintaining a healthy lifestyle.

Case Scenario

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01

FIRST

Can you integrate your own speciality/experience?

02

SECOND

Spice the discussion up with humour, own experience, and/or news stories.

03

THIRD

The quiet one and the dominate one!

04

FOURTH

Should we become a role model for the students? why? How?

Social Learning Theory

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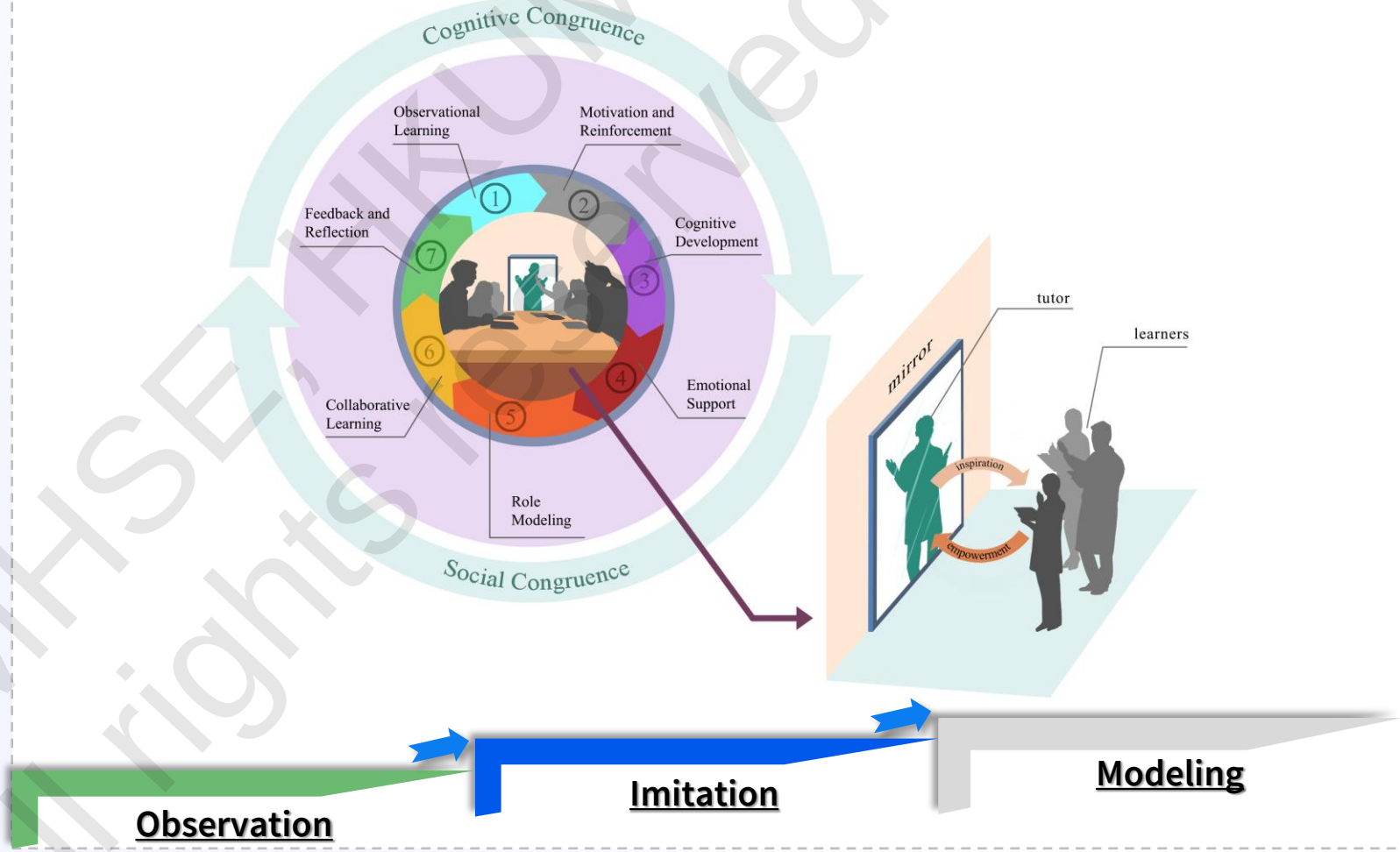
Albert Bandura, posits that people learn by observing and modeling the behaviors of others.

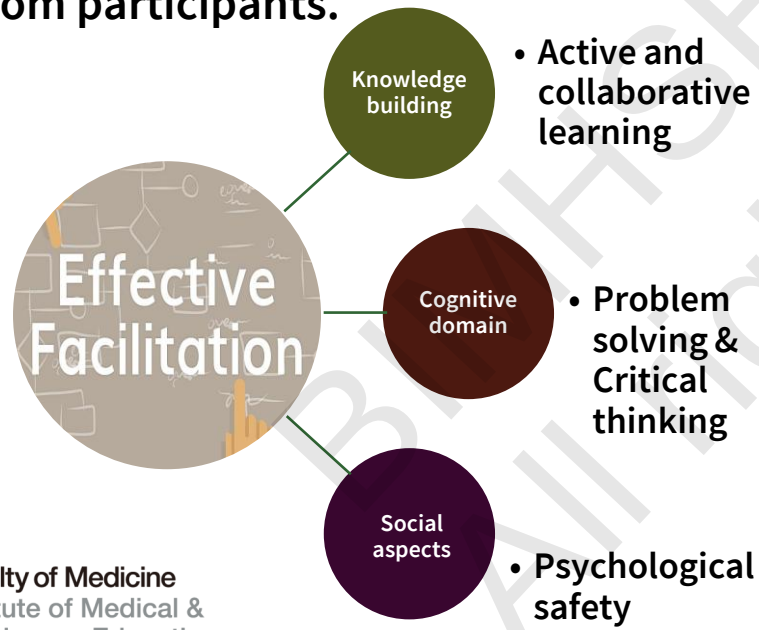
Tutors act as positive role models by sharing their expertise and experiences, motivating learners to recall and apply their knowledge through observation and imitation.



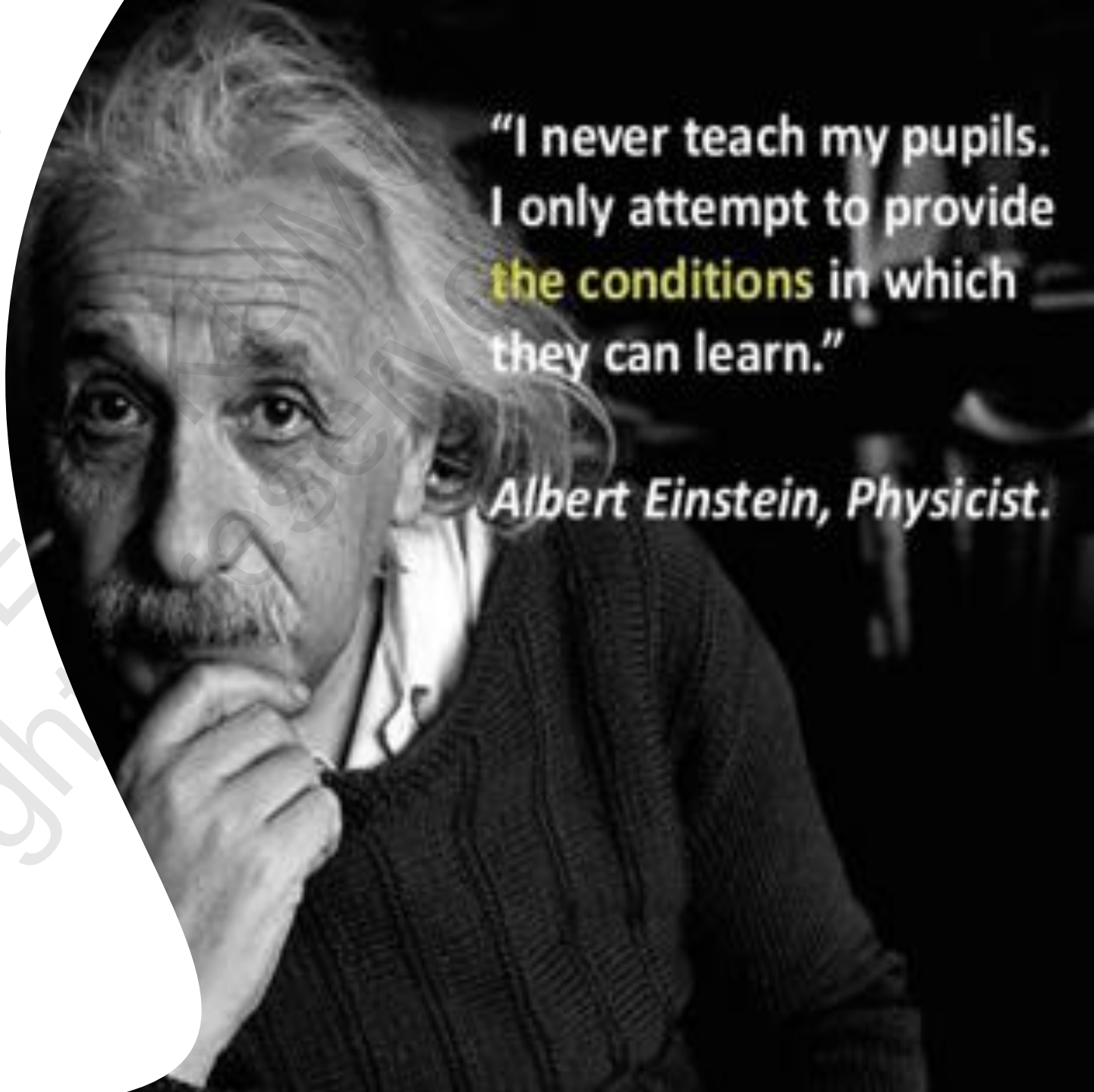
Theory → Bandura's social learning theory

Take-Home Messages

- Serve as the *guide on the side* instead of the *sage on the stage.*
- Help create and foster a positive learning environment.
- Use questioning skills to encourage group discussion, and monitor learners' progress and group development timely.
- Manage group dynamics with diplomacy and clarity.
- Reflect on teaching experience, and gain feedback from participants.



- Active and collaborative learning
- Problem solving & Critical thinking
- Psychological safety



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Thank You

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