Case-Based Method for HOTs

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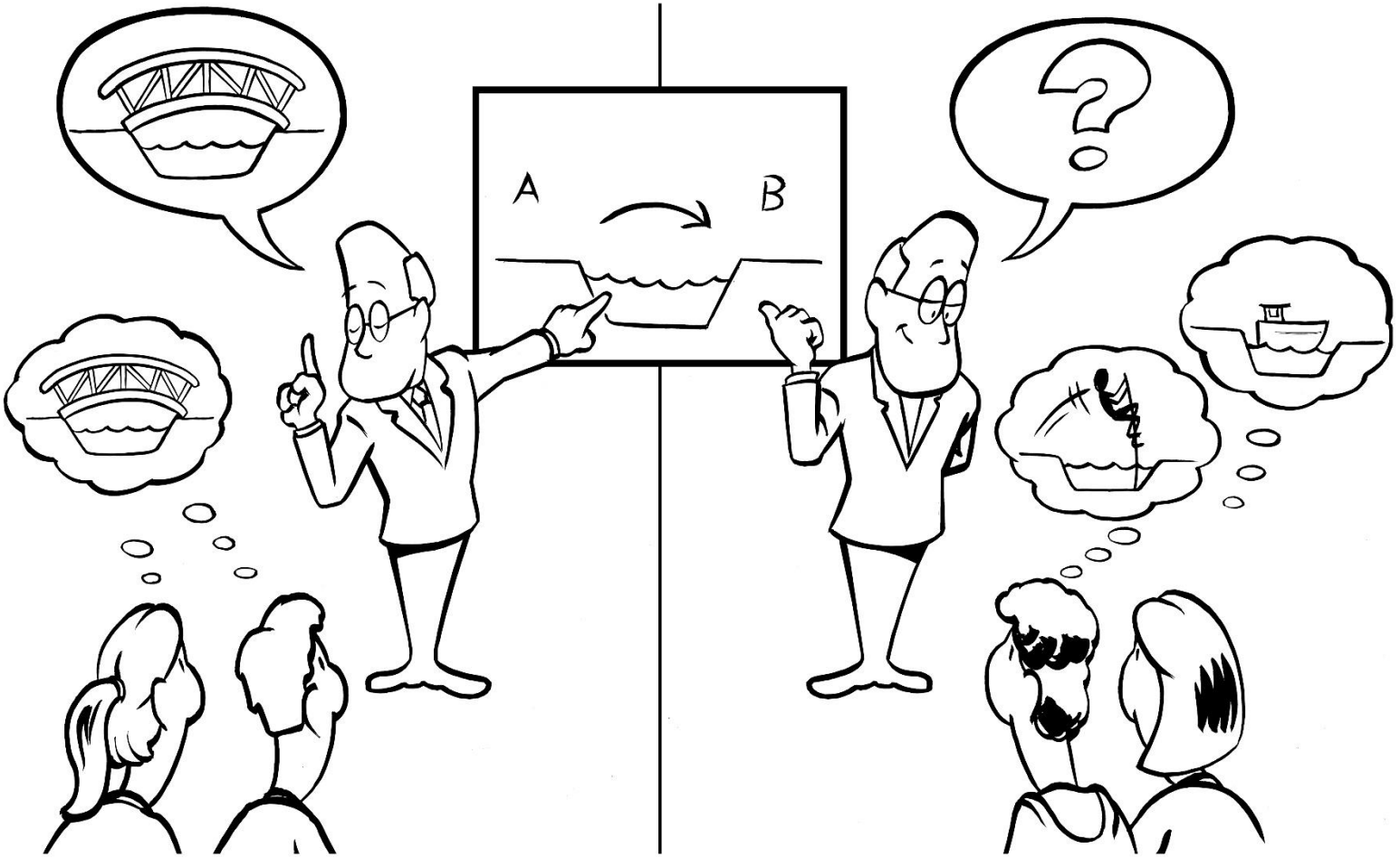
Adult Learner

Andragogy–five assumptions about adult learning

- Adults are independent and self directing
- They have accumulated a great deal of experience, which is a rich resource for learning
- They value learning that integrates with the demands of their everyday life
- They are more interested in immediate, problem centred approaches than in subject centred ones
- They are more motivated to learn by internal drives than by external ones

BEHAVIORSME vs CONSTRUCTIVISME

Wat is de rol van de leerkracht?



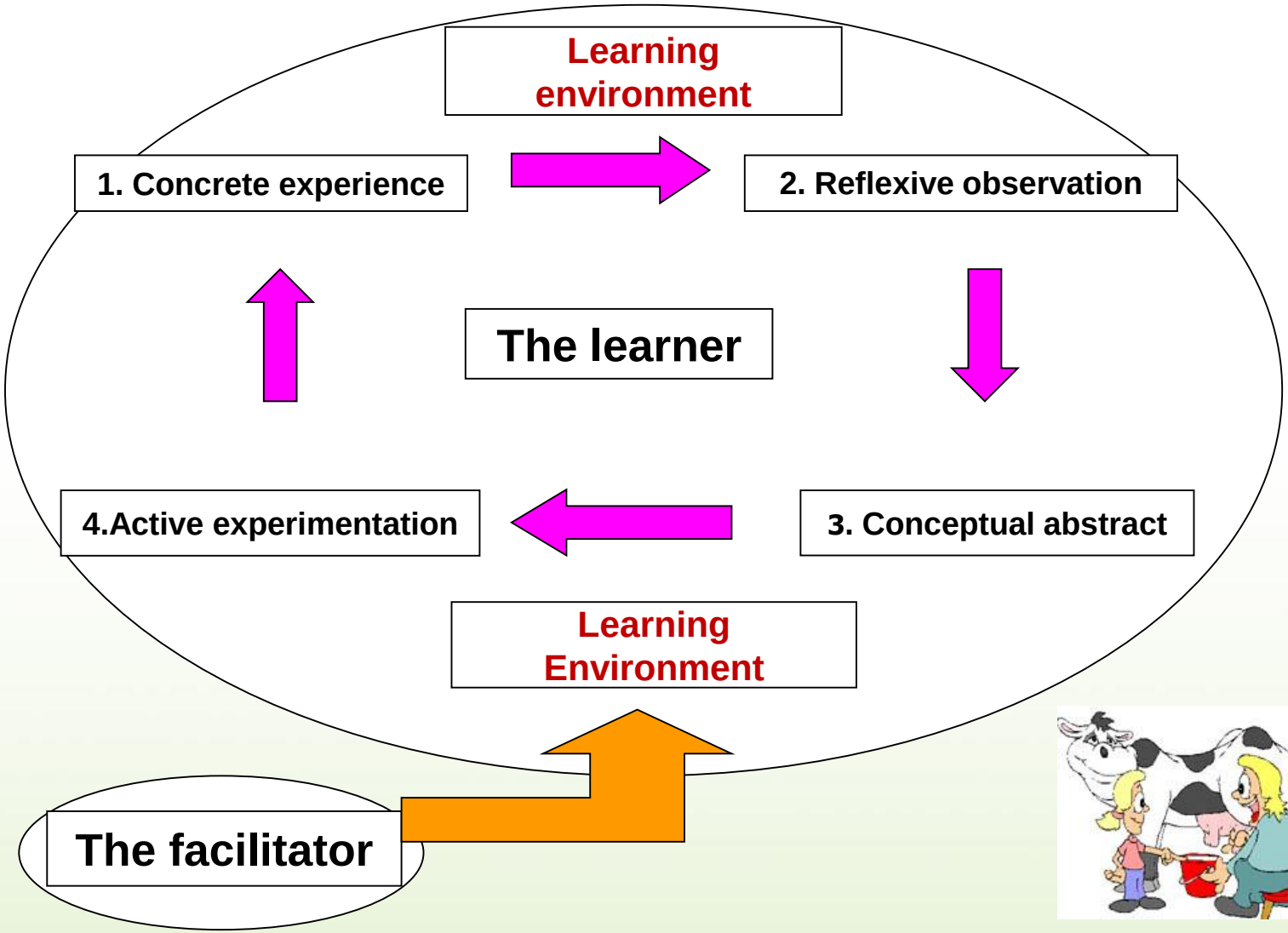
Constructivism

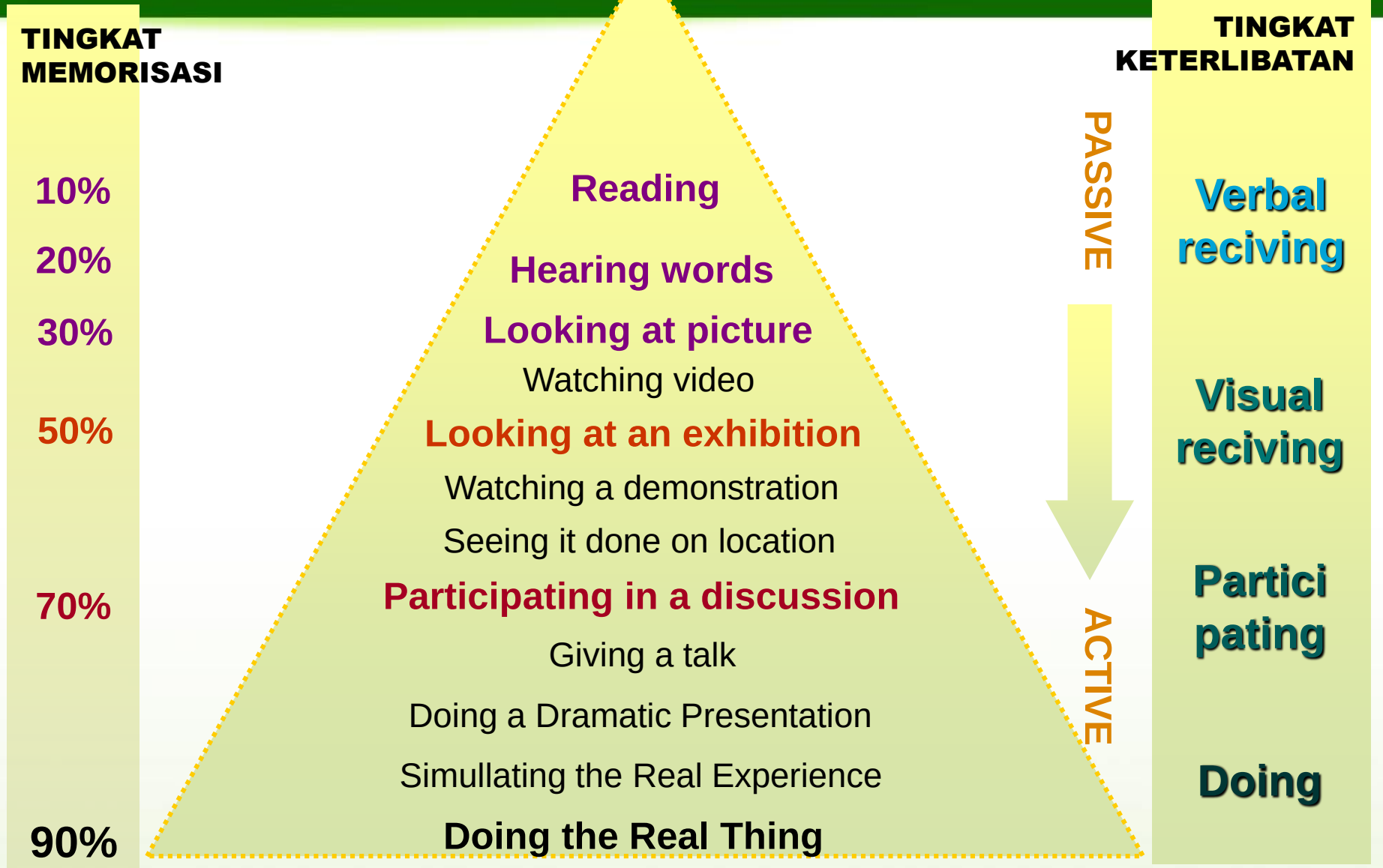
- Students **construct** their own “meaning - knowledge” based on their experience.
- Learning is an active process; a social activity, a contextual process, a life experience - physical and social environment of medical practice

- The **reflective** application of knowledge is integrated into learning, allows the student to develop metacognitive structures and construct meanings
- Students must use the significant knowledge that they have learned (prior knowledge)
- Motivation plays a transcendental role

“learn to learn”, reflect on own learning process

Stages in Experiential Learning – Merdeka Belajar

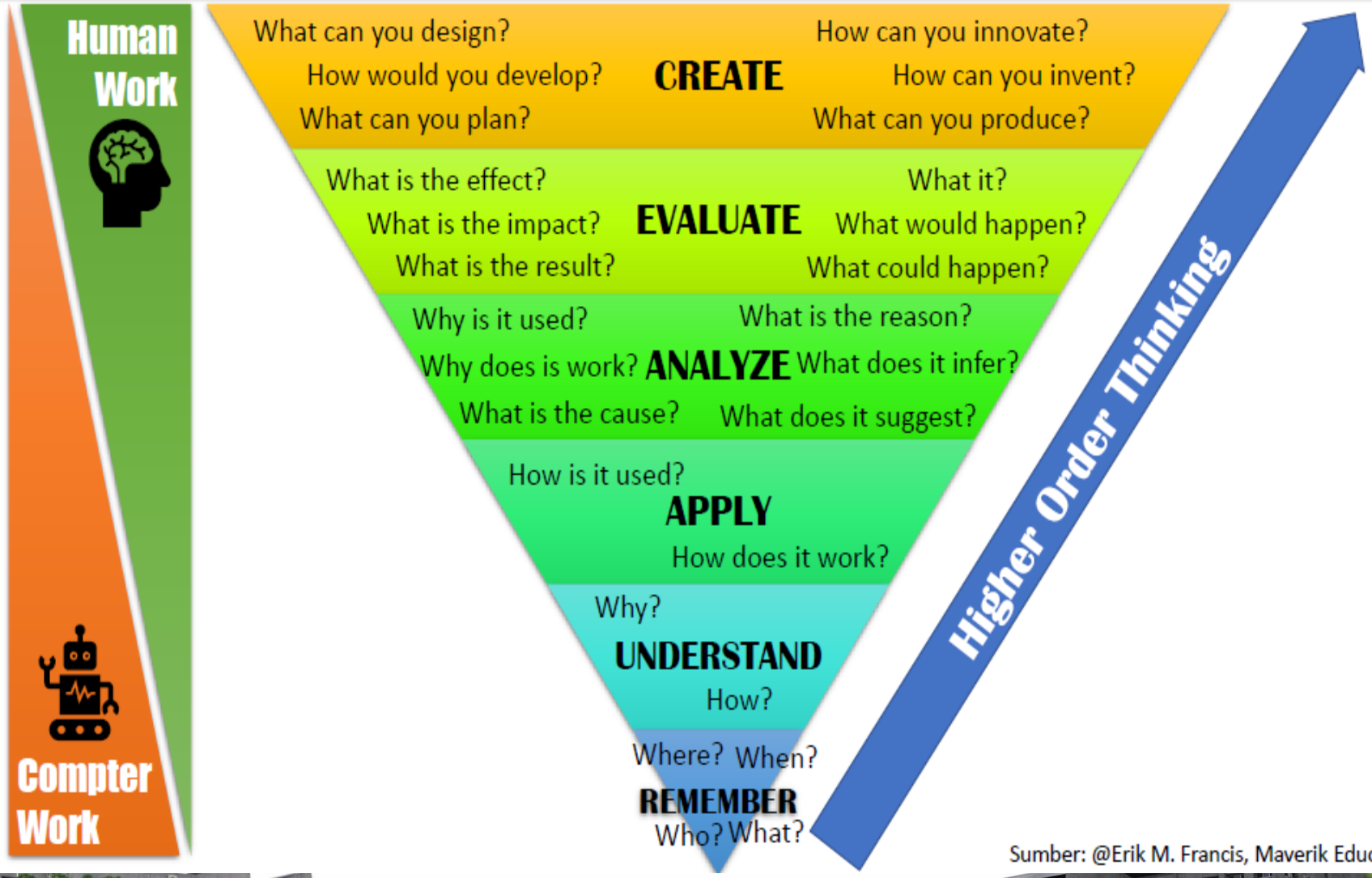




MODEL PEMBELAJARAN

Direkonstruksi dari Dr.Vernon A. Magnesen, 1983, *dalam QUATUM TEACHING.*

Higher Order Thinking



Sumber: @Erik M. Francis, Maverik Education,2014

Three conditions that facilitate learning

1. Activation of prior knowledge

- Earlier knowledge used in understanding new information
- Everyone have prior knowledge about some problem, but at not same level
- When the first year student of medical school got a scenario about tuberculosis, they will remember and use their biology science from high school
- When same scenario gave to 4-th year medical school student, they will remember much better because they are already learn about tuberculosis at medical school. They will know more detail about tuberculosis and apply it to solve the problem.

Three conditions that facilitate learning

2. Encoding specificity

- The closer the resemblance between the situation in which something is learned and the situation in which it is applied, the better the performance
- Encoding specificity:
  - High prevalence
  - Life threatening/ urgent
  - potential serious oucomes
  - poorly handled/ often missed

Three conditions that facilitate learning

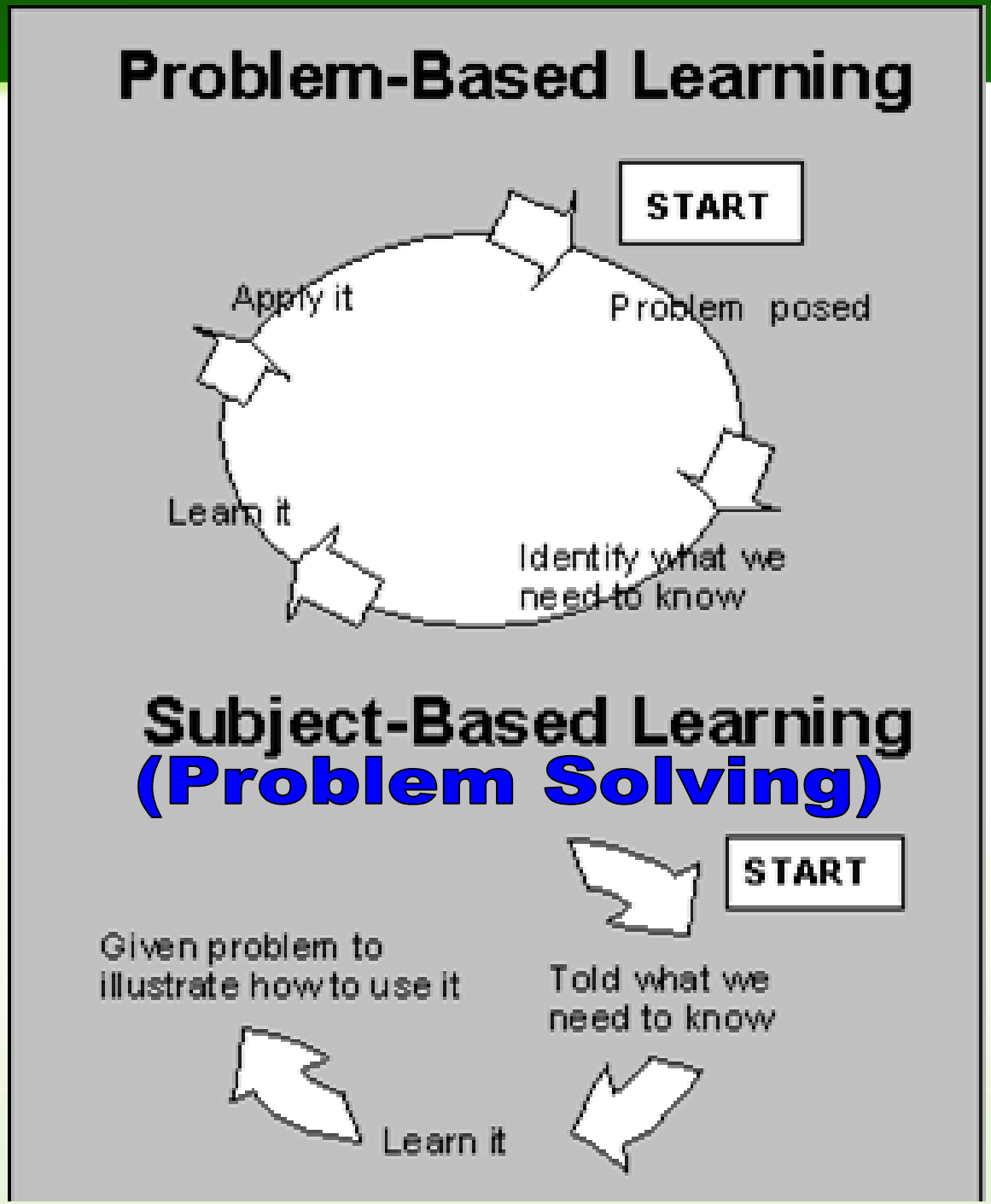
3. Elaboration of knowledge

- Information is better understood, processed, and retrieved if students have an opprtunity to elaborate on that information
- Elaboration provide redundancy in the memory structure
- Paraphrase in important

Case-Based Method

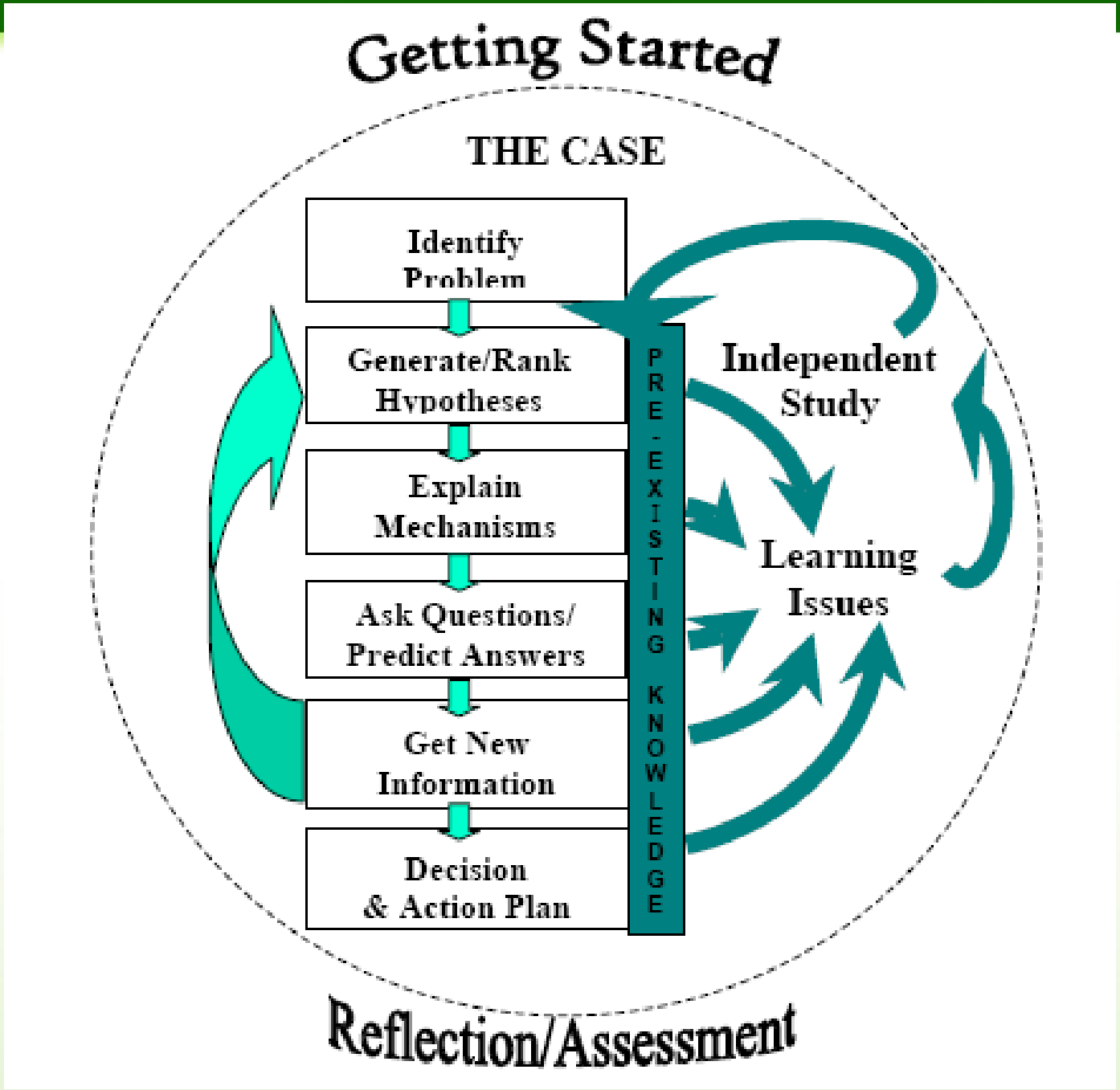
- Problem-Based Learning: The process of acquiring new knowledge based on recognition of a need to learn
- Problem-Solving: Arriving at decisions based on prior knowledge and reasoning

Which one to choose?



PROBLEM SOLVING	PROBLEM-BASED LEARNING
- The focus is on preparatory learning prior to exposure to the problem.	- The problem comes first without advance readings, lectures, or preparation.
- The teacher set the problems (case history problems in a primarily lecture-based format), and students attempt to resolve them using previously taught curricular content.	- The problem serves as a stimulus for the need to know. - Based on their own prior knowledge and the identified gaps in that knowledge, students determine the learning issues within their own group. They then identify and use a variety of learning resources to study these issues and return to the group to discuss and share what they have learned.
Usefull for application of knowledge	Usefull for basic concept Showing relevance of basic science to professional practice

The case serves as a stimulus for learning



Seven Jump

STEP 1. Clarify Unfamiliar Terms

STEP 2. Define the PROBLEM (s)

STEP 3. Brainstorm Possible Hypothesis or Explanation

STEP 4. Arrange Explanation into a Tentative Solution

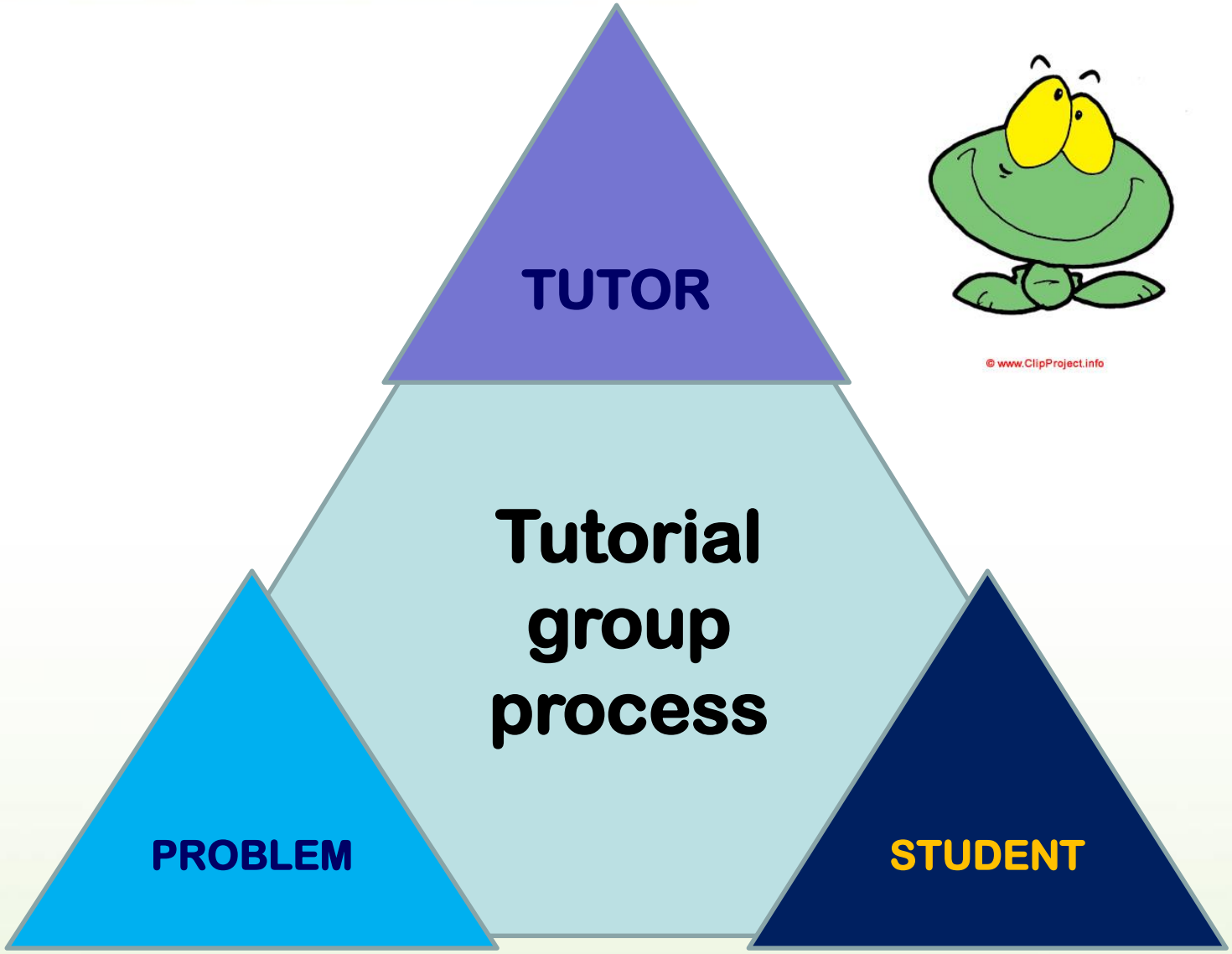
STEP 5. Define Learning Objective

STEP 6. Information Gathering and Private Study

STEP 7. Share the Results of Information Gathering and Private Study

Simulasi Tutorial FK Unand

- https://www.youtube.com/watch?v=WNlDZXcUBwY


TUTOR
Tutorial group process
PROBLEM
STUDENT

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Pucatnya Nona Anne

Nona Anne, 18 tahun dibawa ibunya konsultasi ke dokter Puskesmas dengan keluhan sering merasakan pusing sejak 2 bulan yang lalu. Dari anamnesis didapatkan bahwa Nona Anne sejak 4 bulan yang lalu melakukan diet ketat dengan mengurangi semua jenis makanan. Saat ini badannya terasa gemetaran dan telapak tangannya terlihat pucat. Sewaktu naik tangga di kampusnya, Nona Anne merasakan lelah yang berlebihan dan berusaha menarik nafas yang panjang untuk mengurangi rasa sesak yang dirasakannya. Dokter juga menanyakan keadaan anggota keluarga, apakah ada riwayat yang sama dengan Nona Anne.

Dokter melihat sediaan apus darah tepi nona Anne, ditemukan eritrosit mikrositik hipokromik. Nona Anne diberi obat tambah darah dan dianjurkan kontrol 1 bulan yang akan datang. Ibu Anne menyampaikan kekhawatirannya kepada dokter apakah Anne juga memerlukan rujukan dan pemeriksaan sumsum tulang seperti yang dialami oleh saudara sepupu laki-lakinya, karena keluhan pucat dan mudah letih yang dialaminya.

Bagaimana anda menjelaskan apa yang terjadi pada Nona Anne?

Capaian Pembelajaran Mata Kuliah

- Menjelaskan pengertian dan jenis anemia
- Menjelaskan epidemiologi, etiologi, faktor risiko pada anemia
- Menjelaskan patogenesis dan patofisiologi anemia
- Menjelaskan gejala dan tanda anemia
- Menjelaskan prinsip diagnosis anemia
- Menjelaskan pemeriksaan laboratorium yang diperlukan untuk menunjang diagnosis anemia

Concept

- Basic principles, key information, or fundamental mechanisms around which a series of notions is organized that permit students to analyze the problem which is presented to them
- The concepts includes its own explanation

…..Concept

- The points that will be related (cause, result) with an explanation, not just a title or statement or task
- The wording of a concept must be precise enough so that a specific message is delivered
- The students have to find, and understand the concepts which are embedded in the problem, and it could be used for many cases

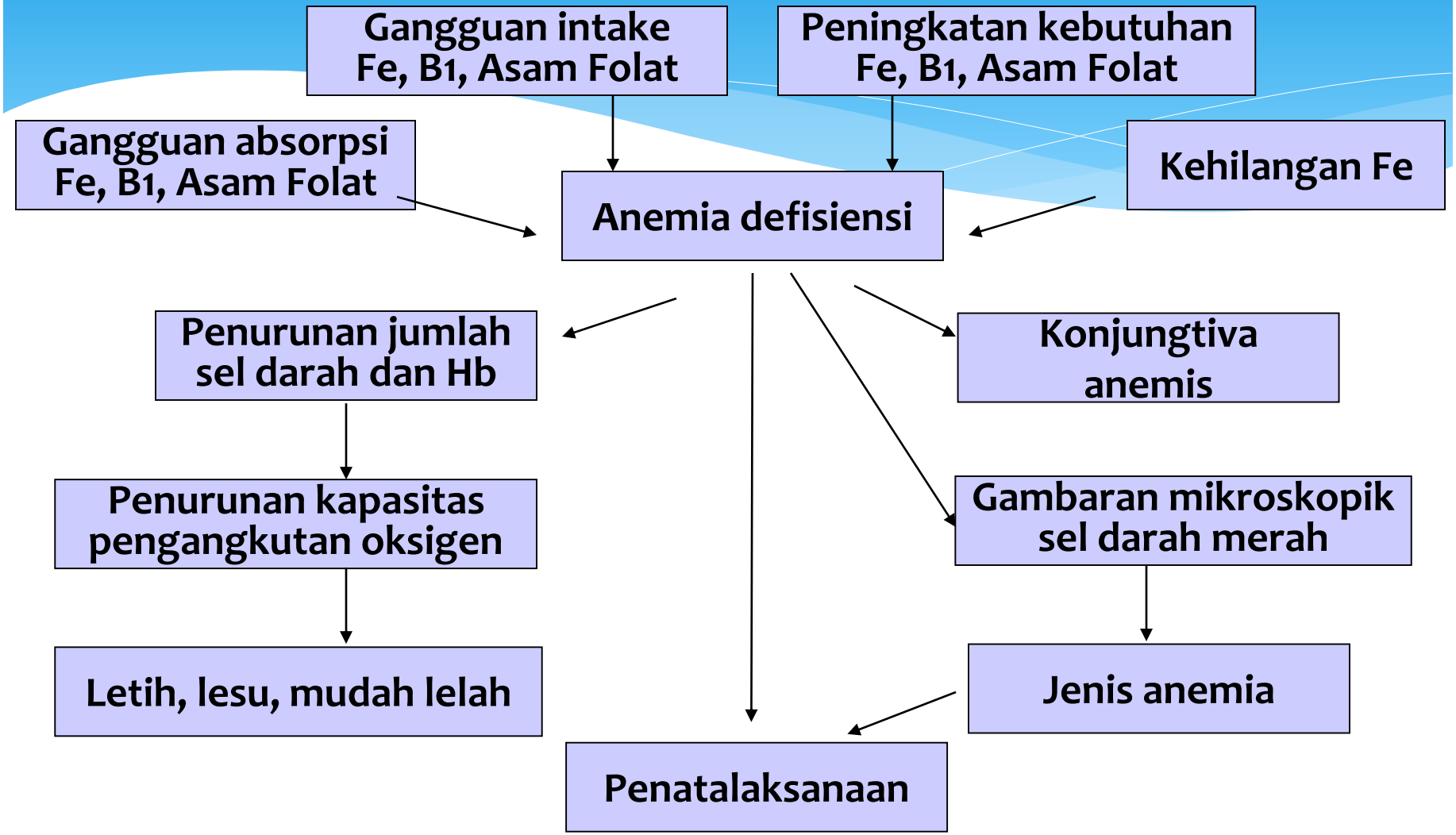
Concepts and Mapping (1)

1. Gangguan absorpsi dan intake zat besi, vitamin B12, asam folat, kehilangan Fe dan peningkatan kebutuhan Fe dapat menyebabkan anemia defisiensi
2. Penurunan jumlah sel darah merah atau jumlah hemoglobin akan menurunkan kapasitas pengangkutan oksigen yang mengakibatkan timbulnya keluhan letih,lesu dan mudah lelah

…..Concepts and Mapping (1)

3. Penurunan kadar Hb dapat diketahui dari pemeriksaan konjungtiva yang anemis
4. Jenis anemia dapat ditentukan oleh gambaran mikroskopik sel darah merah pada apusan darah tepi
5. Penatalaksanaan anemia tergantung pada penyebab terjadinya anemia

Concepts and Mapping (1)



Tutorial Evaluation

Evaluation on:

- Group-functioning (proses tutorial)
- Students performances
- Tutor performances

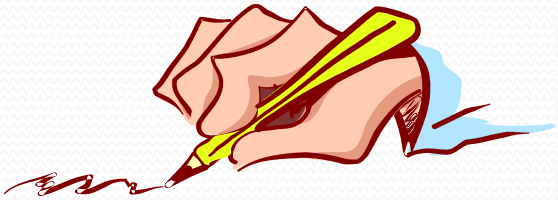
Using:

- Checklist
- Scoring (tutorial)
- Block evaluation-----end of the block

…..Tutorial Evaluation

For example:

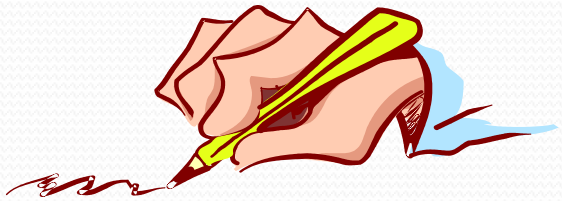
- **Each student is assessed on the following characteristics:**



1. **Follows discussion actively**
2. **Asks relevant questions spontaneously**
3. **Presents hypothesis, facts and homework done clearly**
4. **Analyses hypothesis critically and suggests course of action when in difficulty.**

…..Tutorial Evaluation

For example (cont):



- **The assessment:**

  will take the form of grading students' performance on the scheme shown below

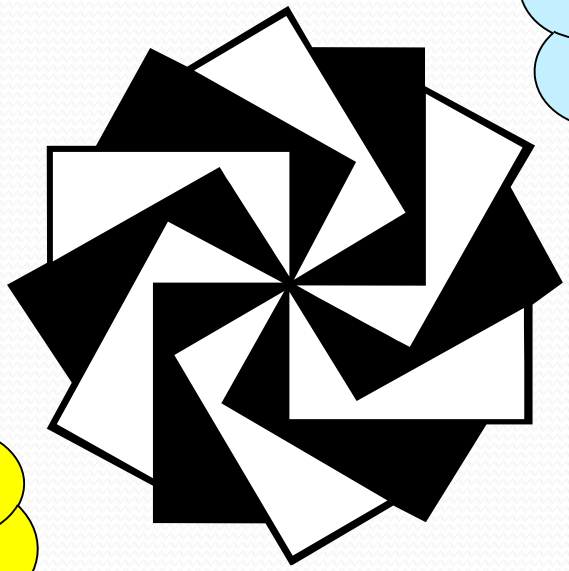
- **Characteristics demonstrated by student**

All four above	**4**
Any three	**3**
Any two	**2**
One only	**1**
Absent without valid reason	**0**

Roles of Tutor

Facilitating Learning Process

Facilitating Self-Directed Learning



Facilitating Group Process

Feedback

- Descriptive
- Non evaluative
- Specific performance
- Non personal attributes

Contract
Tell them you are giving them feedback

When ?
End of tutorial

No scoring

Pendleton's Rules

Self assessment by learner to acknowledge what was done well

What was done well reinforced by facilitator group

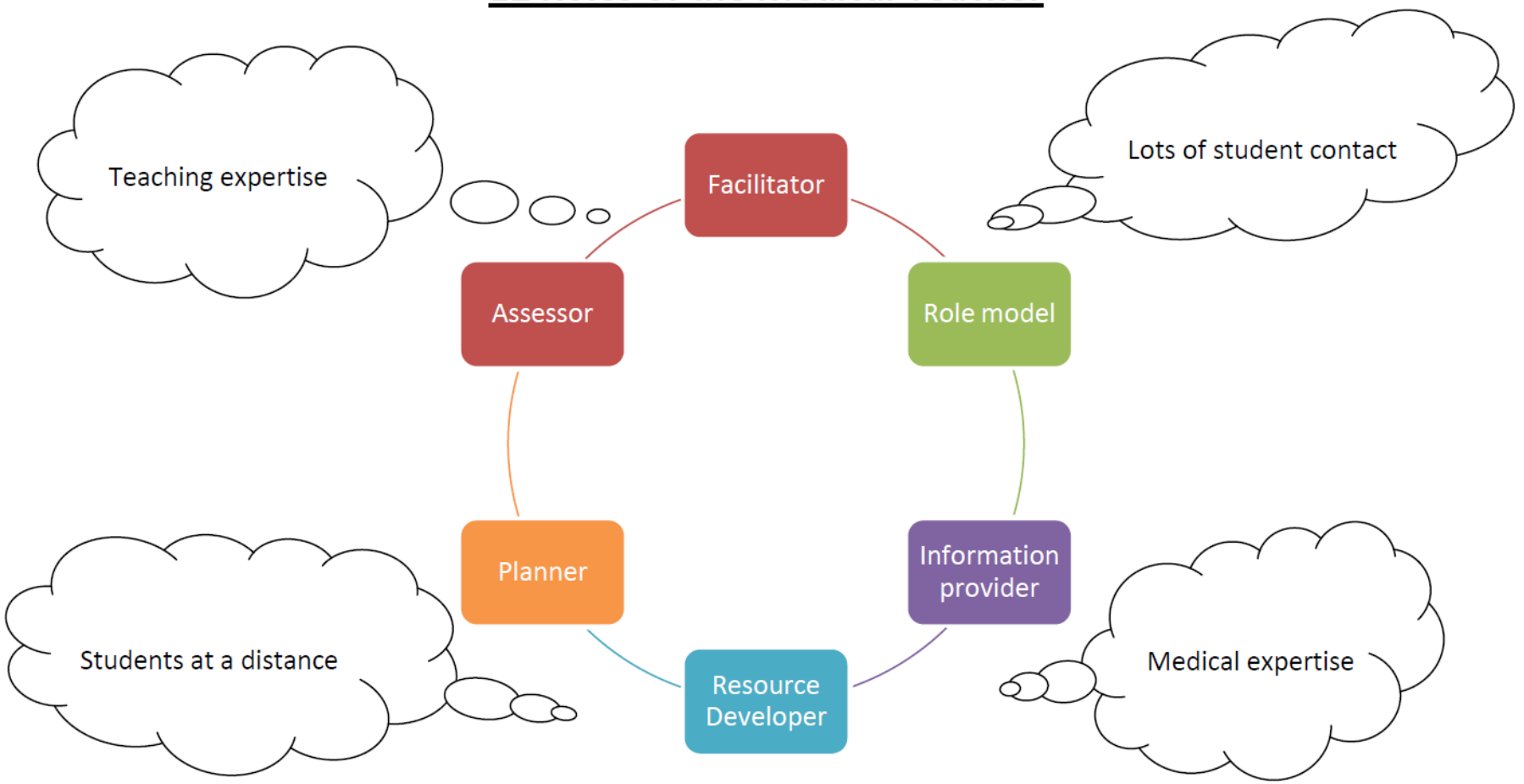
Skills used to achieve successful outcomes discussed

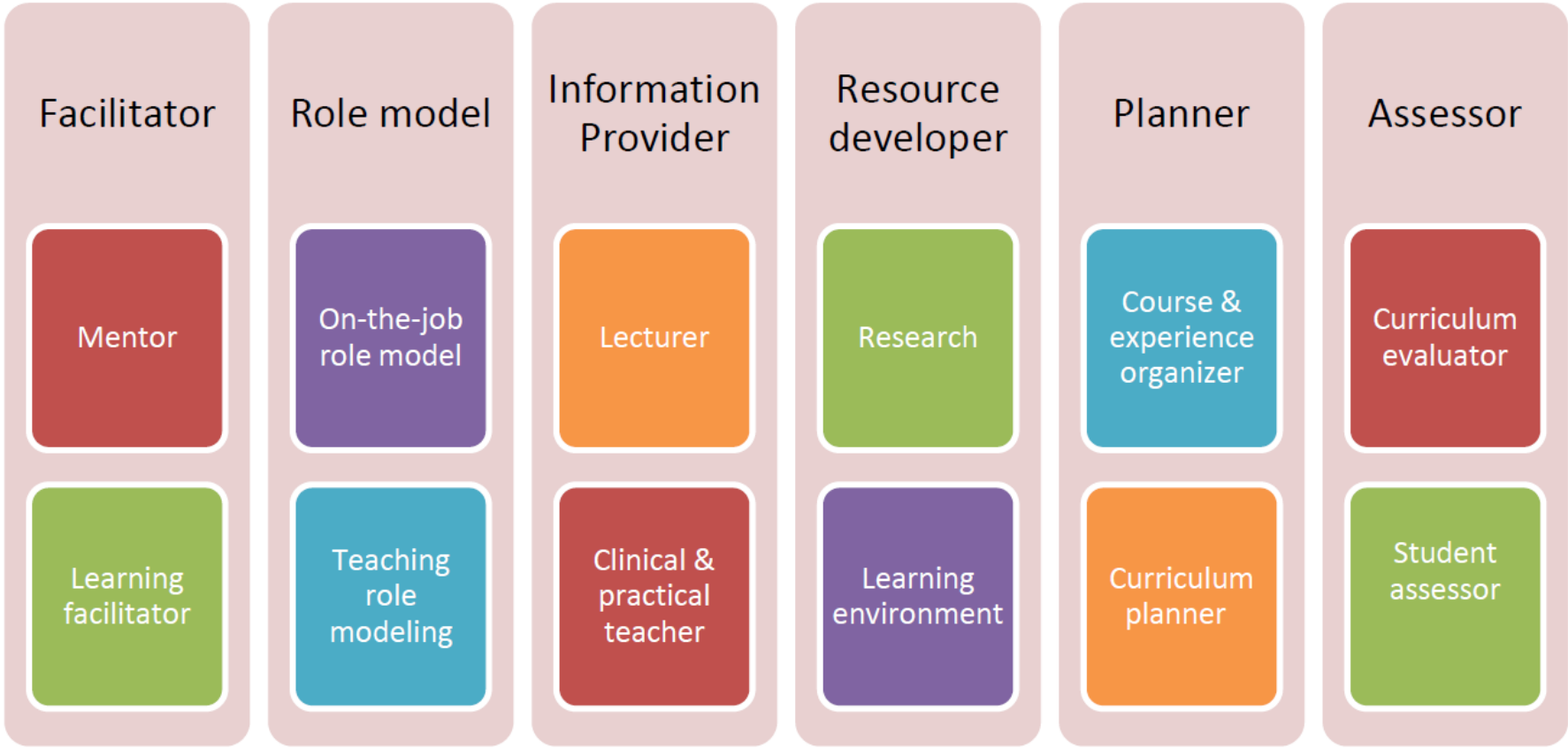
Self-assessment by learners-what could have done better-analyses alternative skills

Facilitator/group suggests alternatives skills is necessary

Learner feedback to the facilitator-content of feedback and skills

12 Roles of the Medical Teacher





Adapted from Harden, R.M & Crosby, J (2000)

New-Innovative Curricula	SPICES ← Continuum →	Traditional Medical Curricula
S	Student-centered	Teacher-centered
P	Problem-based	Information gathering
I	Integrated	Discipline-based
C	Community-based	Campus/Hospital based
E	Elective	Standard
S	Systematic	Apprenticeship-based

Questions?

terimakasih