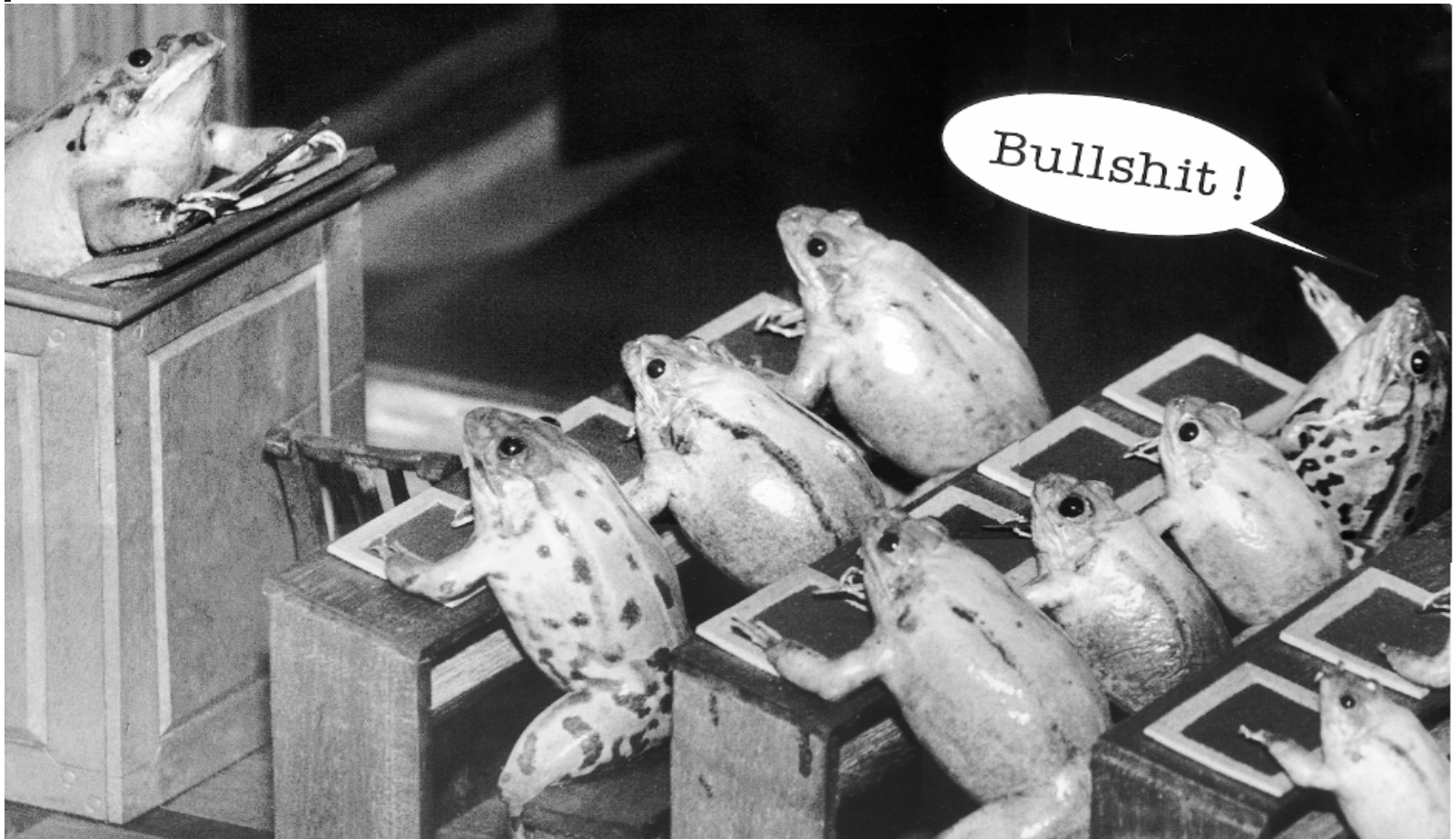


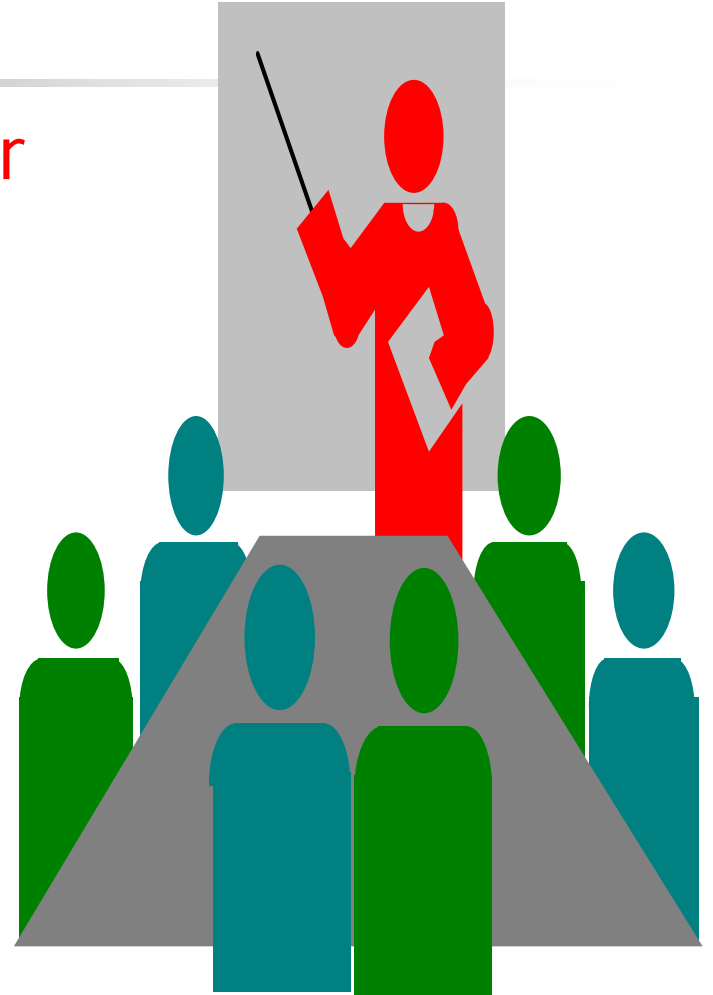
Good teaching in the lecture mode: Lesson clarity

Prof. Nira Hativa, Tel Aviv University



Outline

1. What is the meaning of clear teaching?
2. How can teaching promote students' understanding?
3. What are intermediate/low-level dimensions of clear teaching?





Three-Level Hierarchical Model of Teaching Dimensions

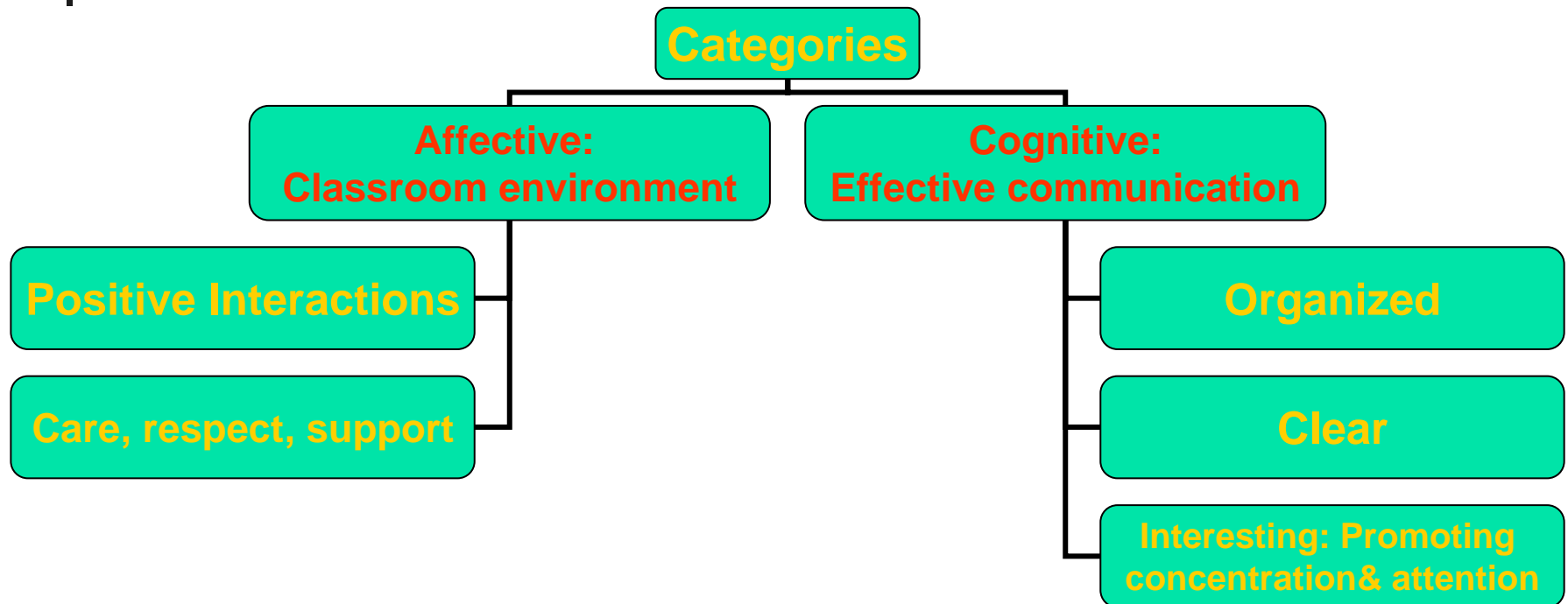
Main Dimensions

Intermediate-Level Dimensions

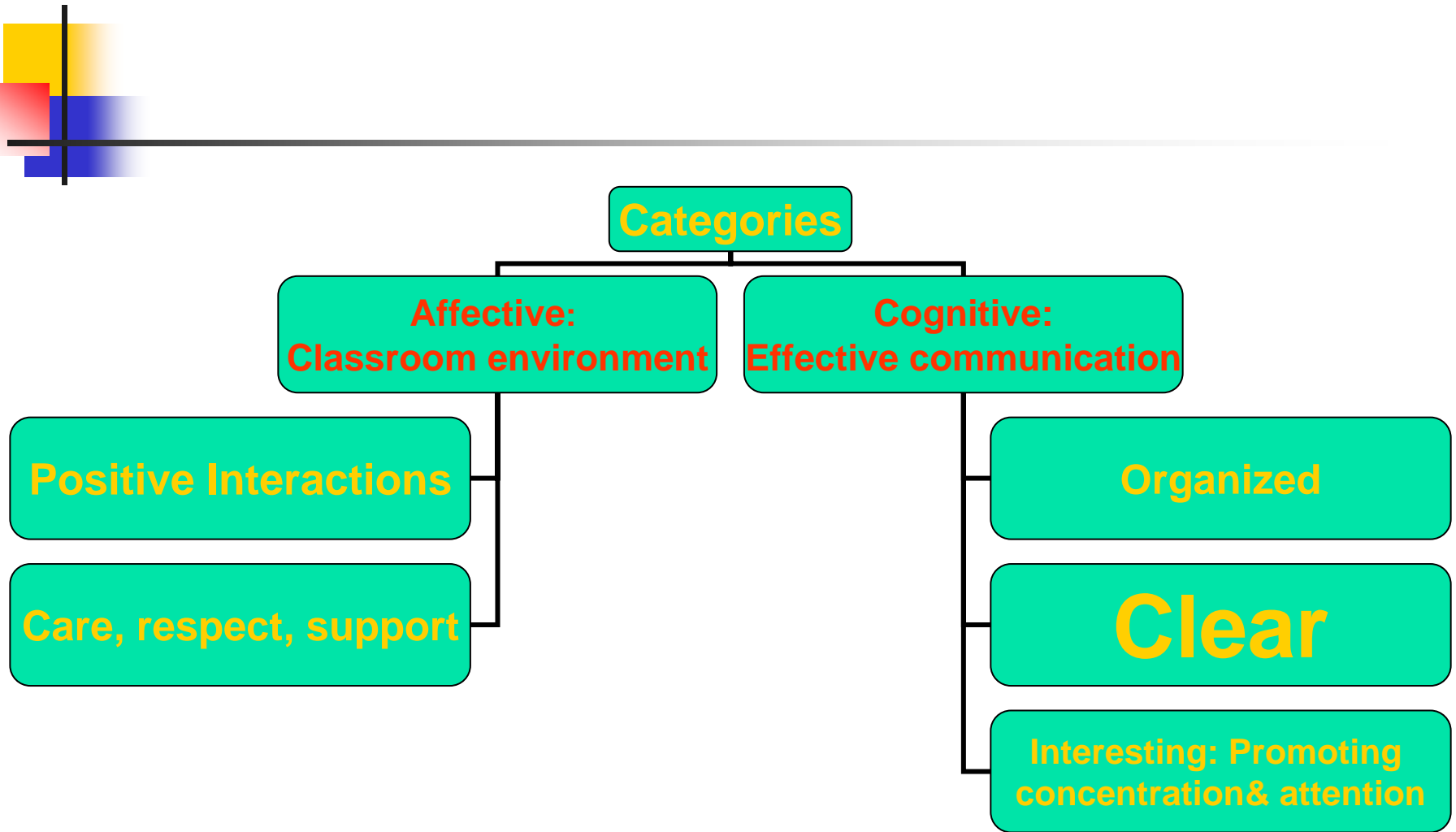
Low-Level Dimensions

**Classroom Behaviors/Teaching Techniques:
“Do’s and don’ts”**

A model of Main Teaching Dimensions



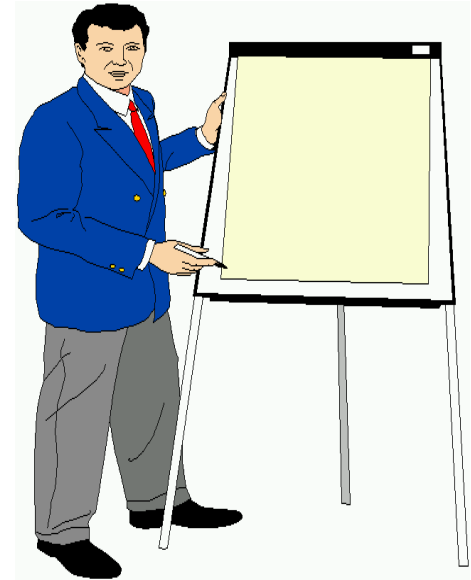
We concentrate here on clarity in teaching



1. What is the meaning of clear teaching?

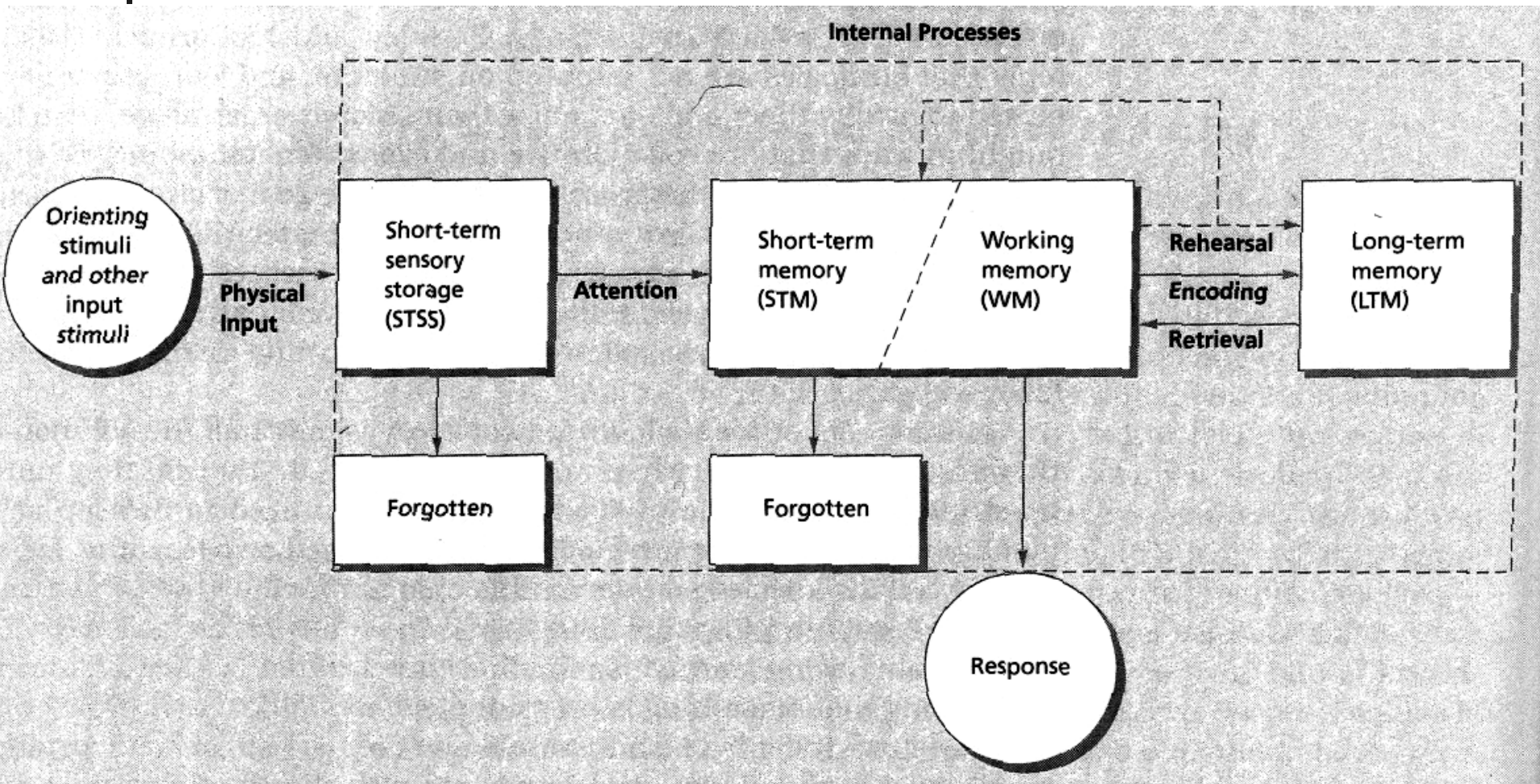
**Clear teaching =
Students' understanding**

Teaching in a way that students construct their new knowledge so as they achieve a sound level of understanding

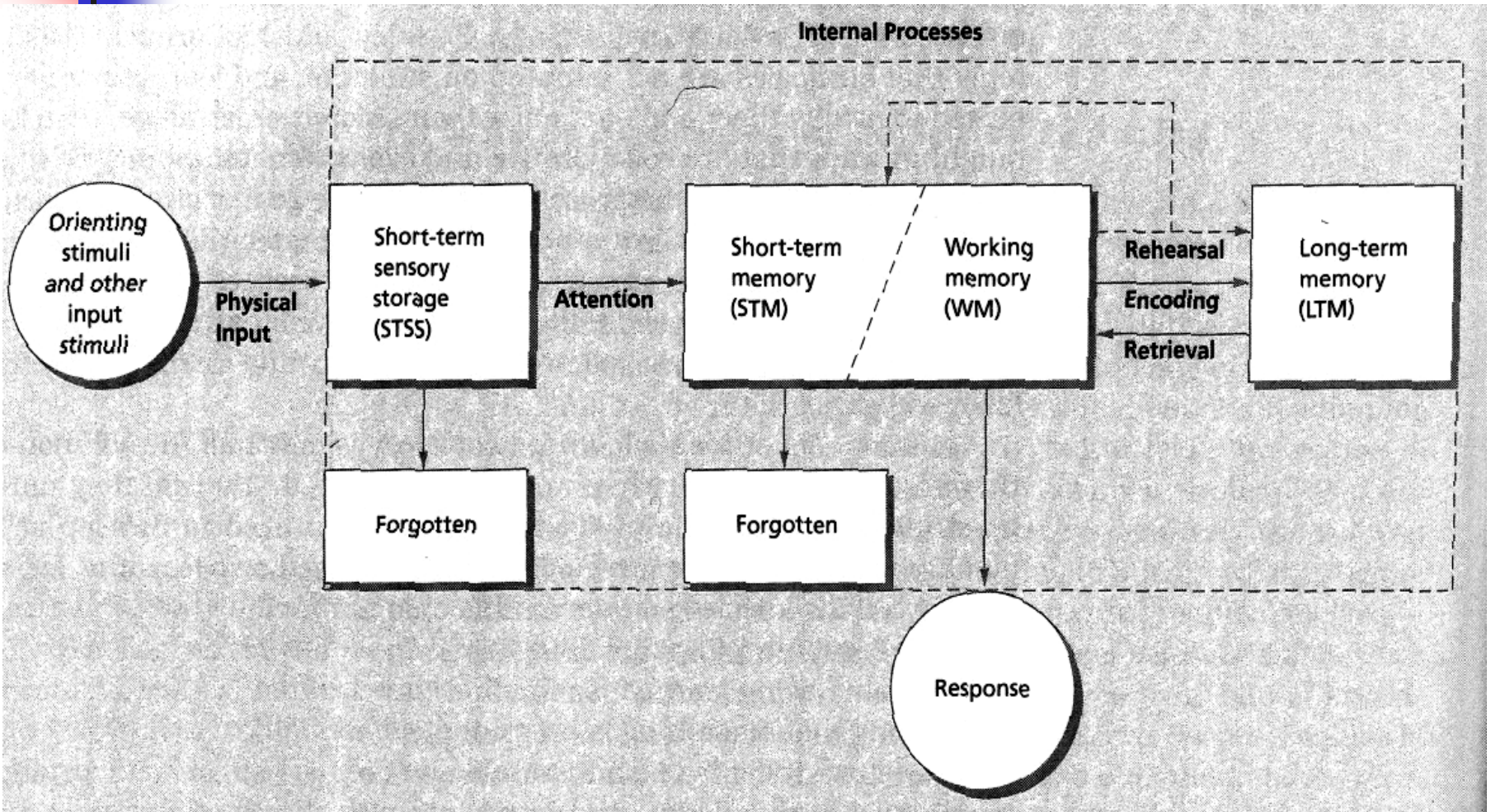


Information Processing Model

Gage & Berliner (1998), Educational Psychology, 6th Edition



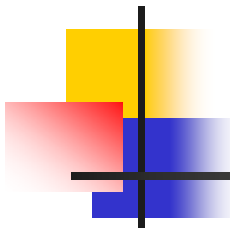
3. What are intermediate/low-level dimensions of clear teaching?





3. What are intermediate/low-level dimensions of clear teaching?

- a. Facilitating input thru senses
- b. Reducing cognitive load
- c. Constructing new knowledge
- d. Deepening the new knowledge—
looking back, sharpening the meaning



Prime discriminators between clear and unclear university teachers (Hines, 1981)

1. Gives explanations we understand
2. Explains things simply
3. Teaches at an appropriate pace
4. Repeats things that we don't understand
5. Repeats things that are important
6. Repeats things that are hard to understand
7. Prepares us for what we'll be doing next
8. Asks questions to find out if we understand
9. Stays with the topic until we understand
10. Asks if we know what to do and how to do it



Prime discriminators between clear and unclear university teachers

11. Explains assignments and the materials we need to use
12. Explains something and then stops so we can ask questions
13. Answers our questions
14. Allows us time to ask questions when we don't understand
15. Teaches step-by-step
16. Writes important things on the board or in class handouts
17. Shows us how to remember things
18. Uses examples when explaining
19. Shows similarities and differences between things
20. Compares new material to what has already learned
21. Goes over difficult problems in class
22. Explains something and then stops so we can think about it



3. What are intermediate/low-level dimensions of clear teaching?

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a. Facilitating input thru senses

Avoiding “noise”



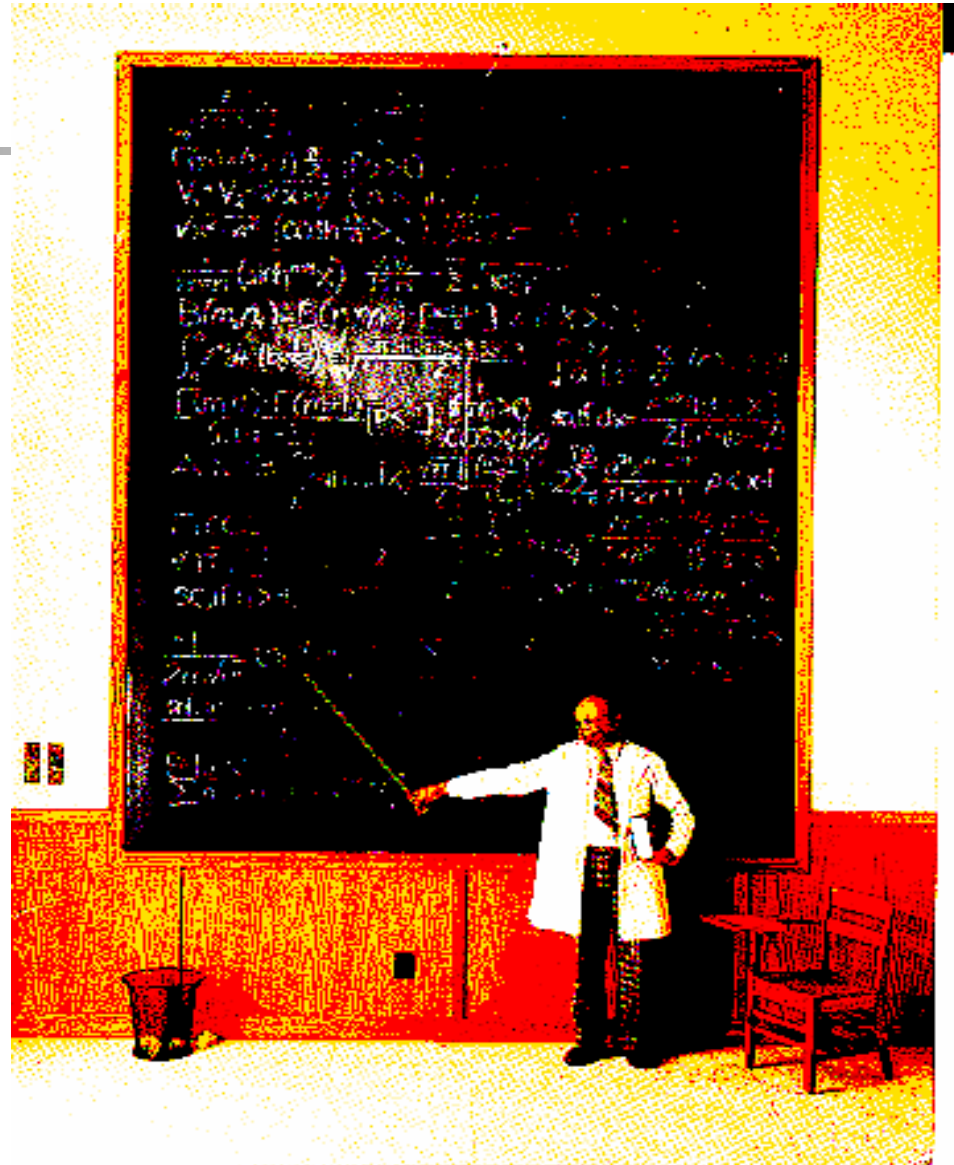
Hearing noise

רעש

כל התנהגויות המרצה או
תנאי הסביבה בכיתה
המסיחים את דעתם של
התלמידים מהחומר
המוצג בשיעור ומפריעים
להם להקשיב ולהתרכז.



Visual noise





Logical noise



Internal/emotional noise



a. Facilitating input thru senses

Multiple-channel communication of
the new information



Multiple-channel communication

Communication of same information thru speech, writing, face mimics, supporting gestures, demonstration, picture, diagram, painting, videotape



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Reducing cognitive load

- Breaking down the new information into small units
- Teaching the small units step by step
- Providing “wait time” and every so often other breaks/pauses in the material presentation



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Constructivist learning theory

Meaningful learning is possible only when the learner **relates new material** in a substantive fashion **to an already existing** cognitive structure.

Understanding develops through an **active process of thinking and building networks** of bodies of knowledge



Constructivist learning theory

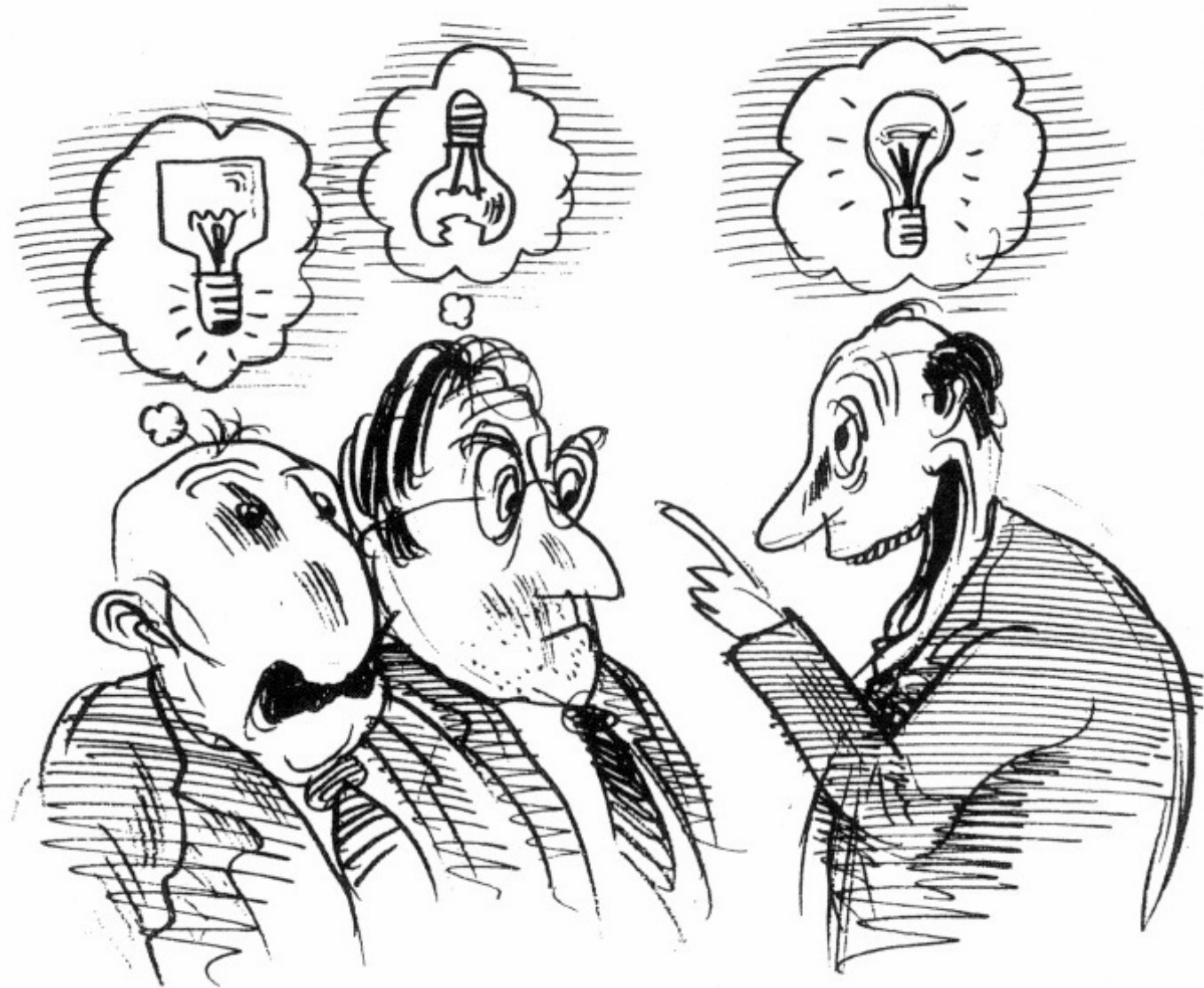
Gaining new knowledge is not a simple /direct action of transfer or accumulation of knowledge, but it is the result of an **active engagement of the learner in the construction of knowledge** on the basis of his **prior knowledge and experience**



Constructivist learning theory

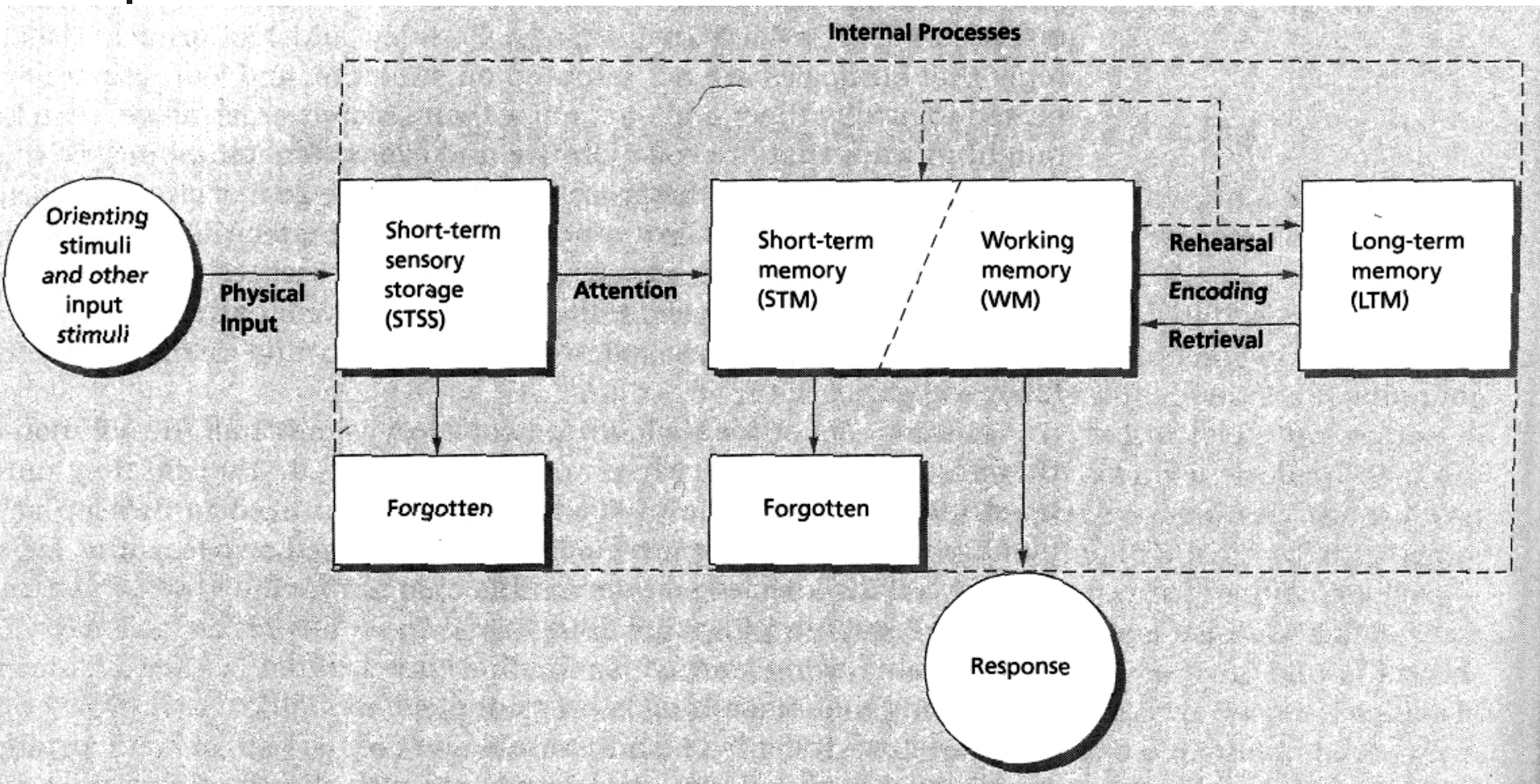
Students will learn and remember information better when they can **make more cognitive associations** with this information and more **interconnections between the new and the already known**


Teacher explains and the listeners build
their knowledge by themselves



Information Processing Model

Gage & Berliner (1998), Educational Psychology, 6th Edition





Control Mechanism: Processing information in working memory-- between STM and LTM

- Selection
- Problem recognition
- Rehearsal
- Searching
- Identifying related knowledge
- Connecting
- Identifying relationships
- Organizing in schemas and frames
- Response selection
- Coding
- Etc...



Building new knowledge, based on the Constructivist learning theory

- Connecting to existing knowledge
- Creating a common base of knowledge to all students in class
- Adapting to student diversity:
Adjustment to the individual and his/her interpretation



Building new knowledge, based on the Constructivist learning theory

Connecting to existing knowledge

- Creating a common base of knowledge to all students in class
- Adapting to student diversity:
Adjustment to the individual and his/her interpretation



Connecting to existing knowledge

- **Identifying relevant knowledge** and **reminding** it
- **Reviewing** relevant knowledge
- Identifying **similarities** and **differences** between new and old knowledge—**comparing** and **contrasting**
- Presenting **interconnections** between new and old knowledge, i.e., generalizations, special cases



Building new knowledge, based on the Constructivist learning theory

- Connecting to existing knowledge
- **Creating a common base of knowledge to all students in class**
- Adapting to student diversity:
Adjustment to the individual and his/her interpretation



Creating a common base of knowledge to all students in class

Starting with **examples, demonstrations, analogies, metaphors, cases, events, incidents, anecdotes, vignettes**

Starting with **visual representation: a drawing, picture, graph, two- or three-dimensional model, computerized animation, videotape, etc.**

Starting with the **main/central idea, advance organizer, end results, an algorithm for solution, a plan for action, a simulation of the process, a reduced/simplified version – more specific/concrete, less rigorous and less accurate.**



Building new knowledge, based on the Constructivist learning theory

- Connecting to existing knowledge
- Creating a common base of knowledge to all students in class
- **Adapting to student diversity:
Adjustment to the individual
and his/her interpretation**



Adapting to student diversity: Adjustment to the individual and his/her interpretation

Identifying factors of diversity

Questioning, questionnaire, interview, exam/test

Adapting teaching to student diversity

- Reviews, repeating explanations
- Adapting the pace, pauses
- Adapting teaching methods: verbal/visual/written/built on intuition and imagery

Examining students' understanding throughout the lesson

- Questioning (Socratic, questions to students, encouraging students' questions)
- Analyzing homework assignments (problem solving, learning journals, asking for explanations, reflection, etc)

Examining students' understanding outside classtime

Homework projects and assignments, exams, meeting with students, help thru email, Internet, personal discussions etc.



3. What are intermediate/low-level dimensions of clear teaching?

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d. Deepening the new knowledge — looking back, sharpening the meaning

- Presenting additional examples, demos, analogies, metaphors, cases, events, vignettes, anecdotes, rule-example-rule
- Additional understanding performances in increasing level of difficulty
- Identifying potential problems and errors