Good teaching in the lecture mode: Dimensions, strategies & skills

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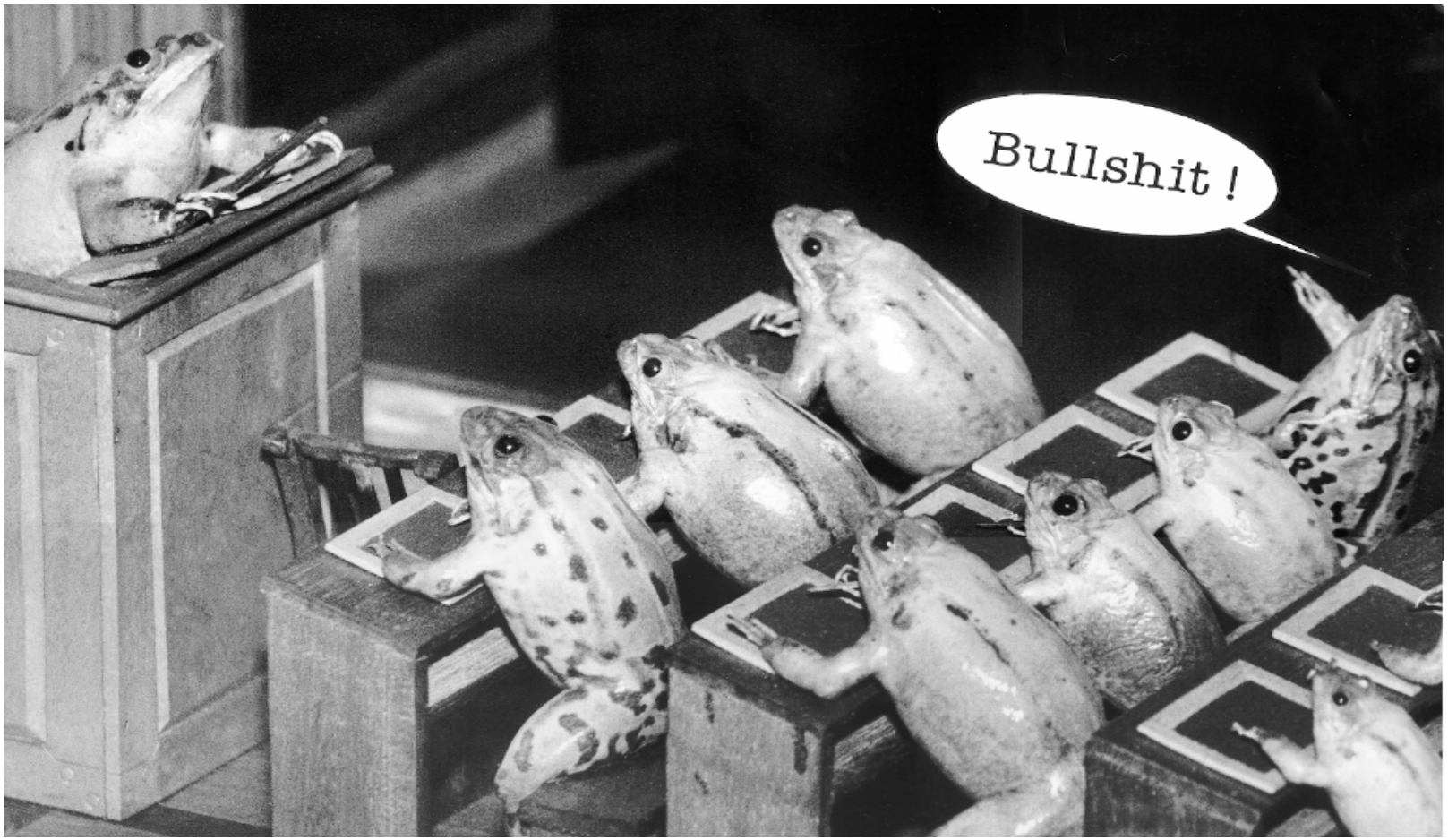


Outline

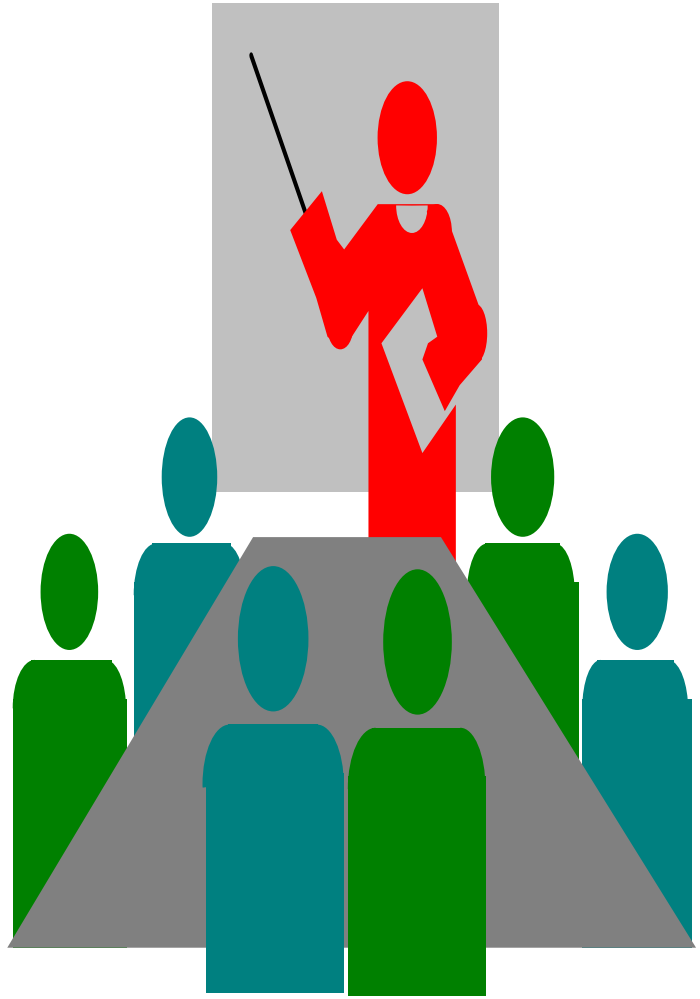
1. Why teach well?

2. What are the main teaching dimensions? (A model)

3. How do the main teaching dimensions promote students' learning?

4. Are there disciplinary differences in preferences of the main teaching dimensions by students?

5. How do excellent teachers use the main teaching dimensions?



Why teach well?

- For your students
- For yourself
- For your school/ department

Why teach well?

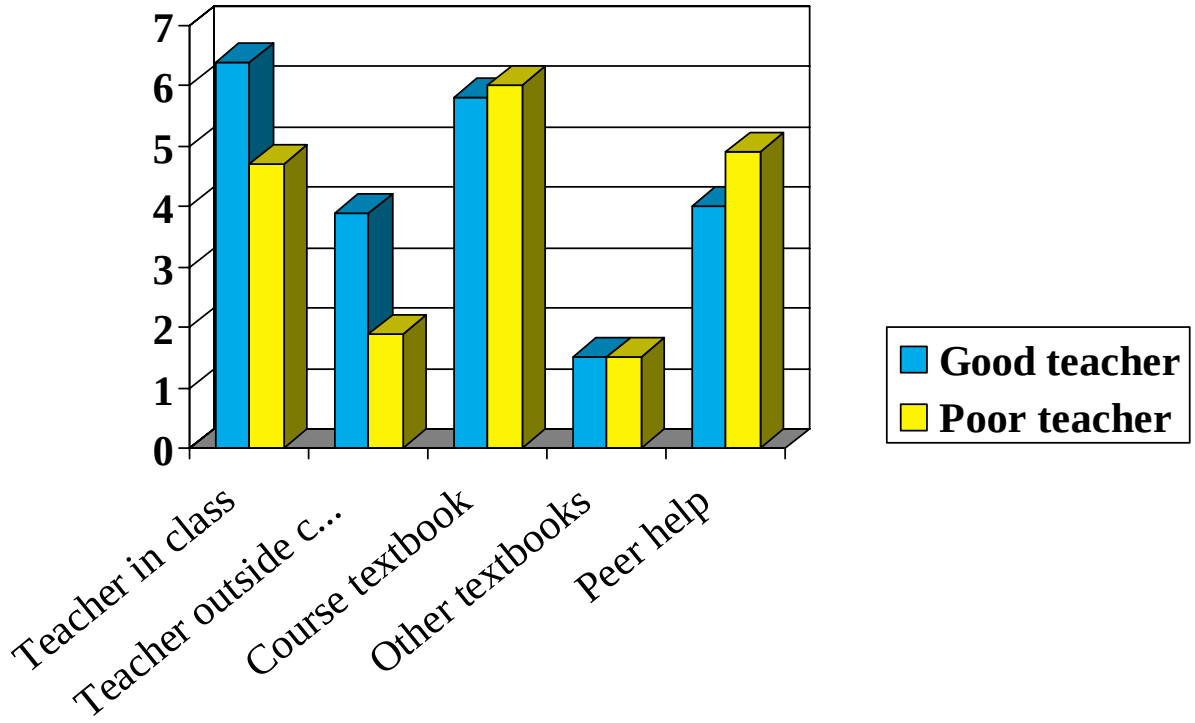
- For your students

Why teach well?

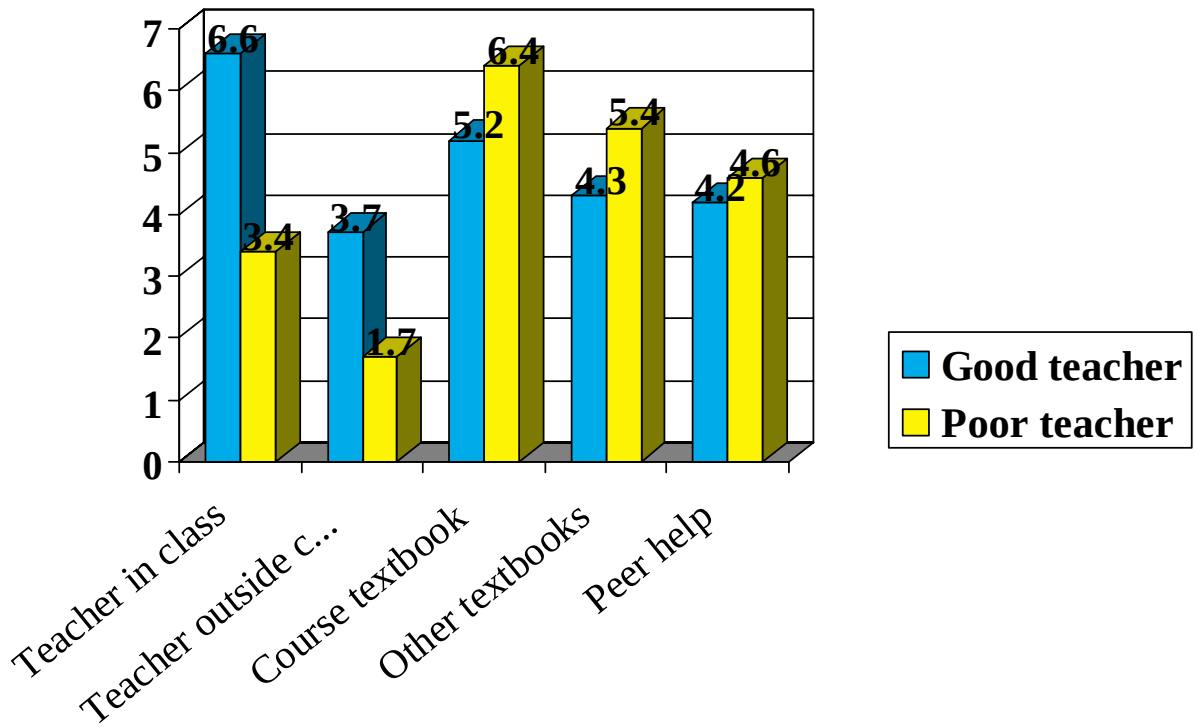
- For your students, so that they will:

- learn better
- be more content with their studies
- become interested in the topics you teach
- would like to continue studying in the same area

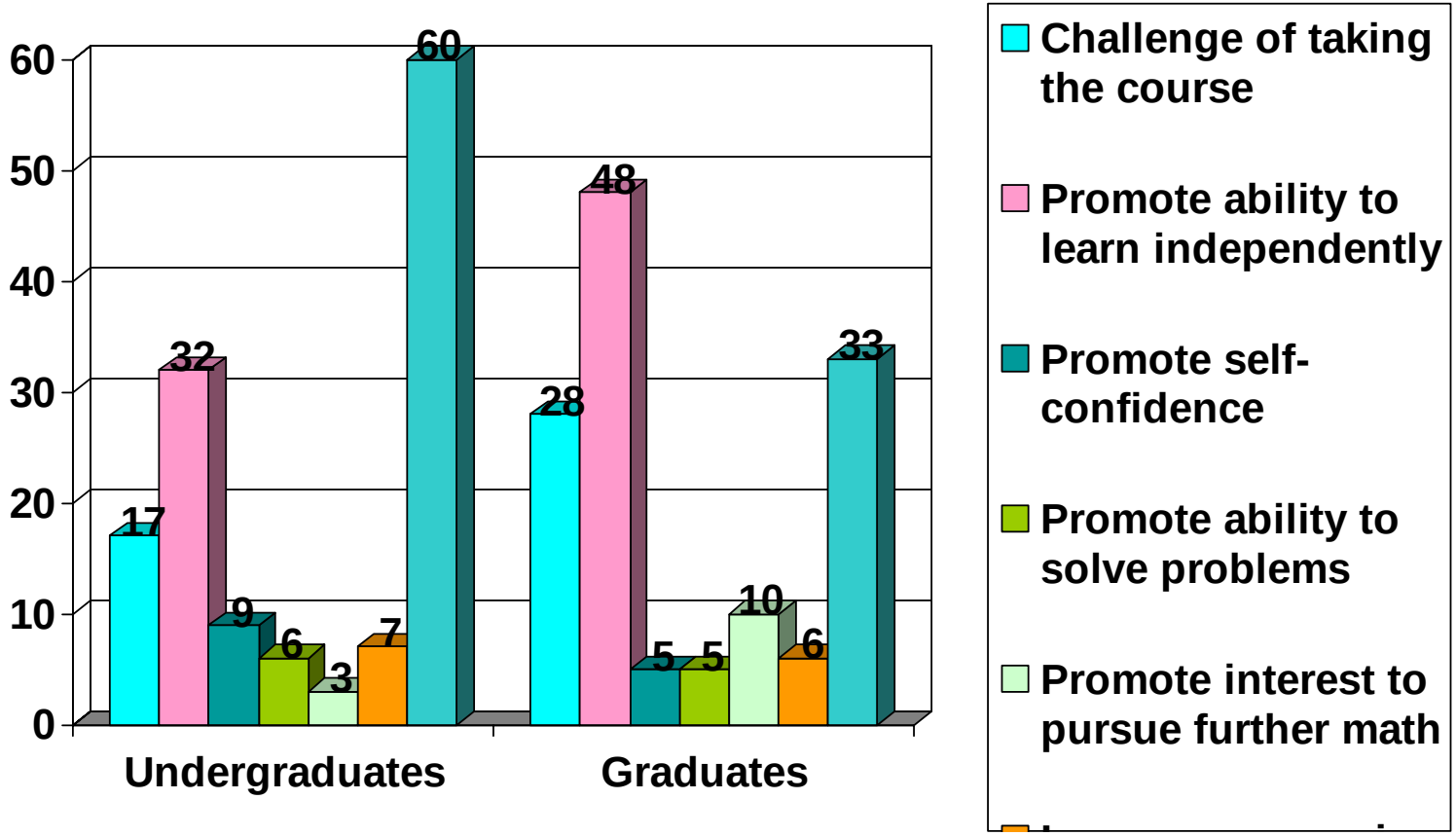
Good vs. poor teachers: Sources for learning--undergraduates



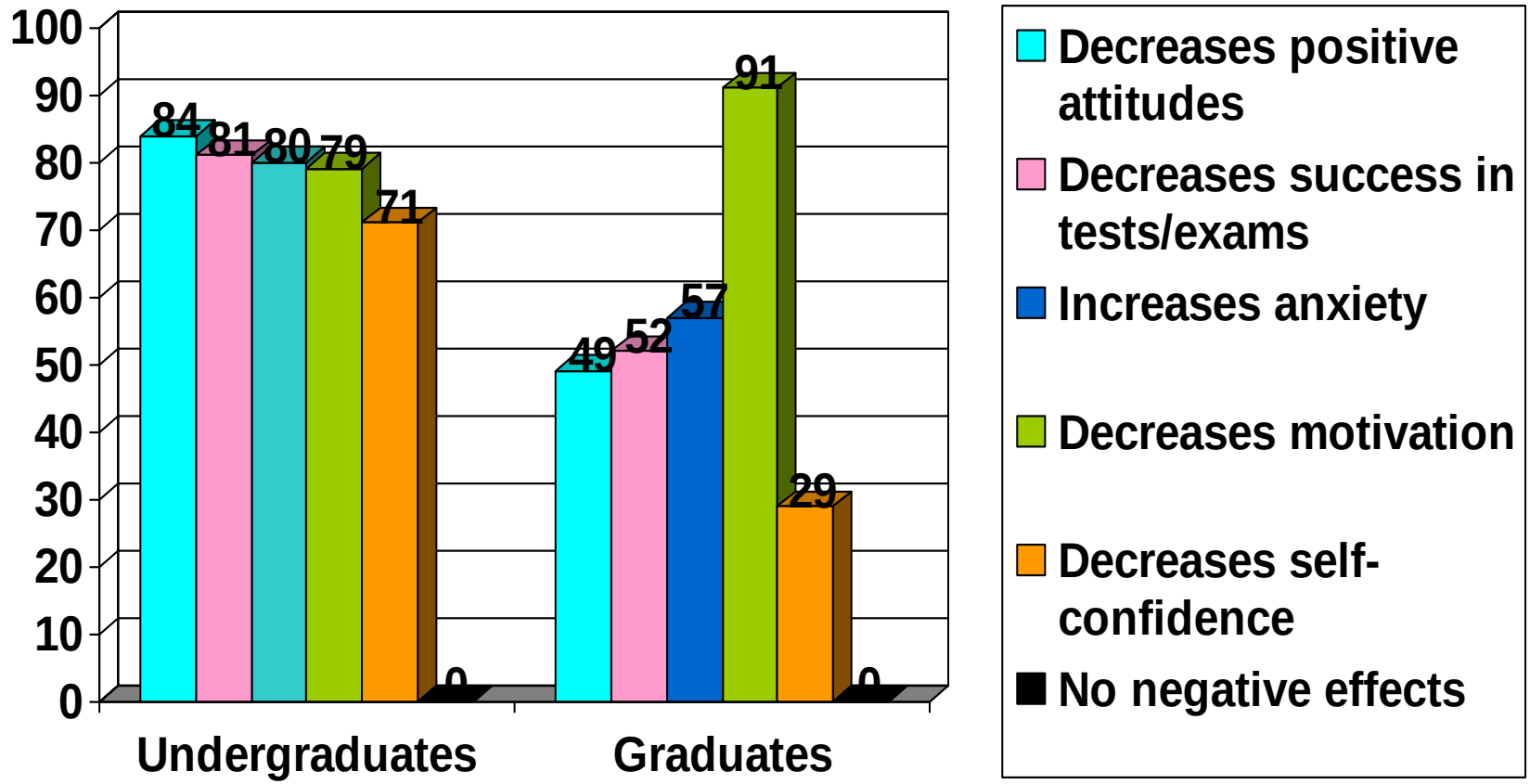
Good vs. poor teachers: Sources for learning--graduates



Positive effects of poor teachers



Negative effects of poor teachers

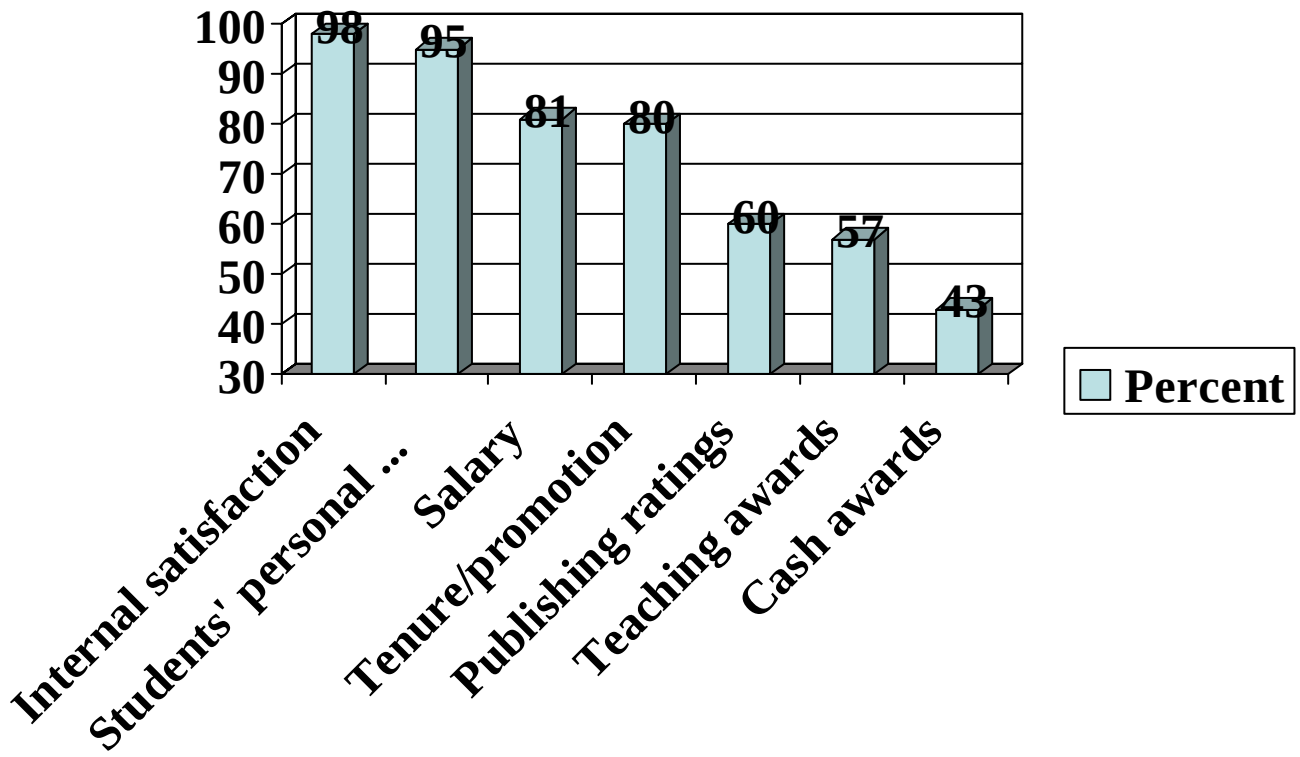


Why teach well?

- For yourself

Why teach well?

Faculty motivation to invest in good teaching



Why teach well?

Benefits for yourself:

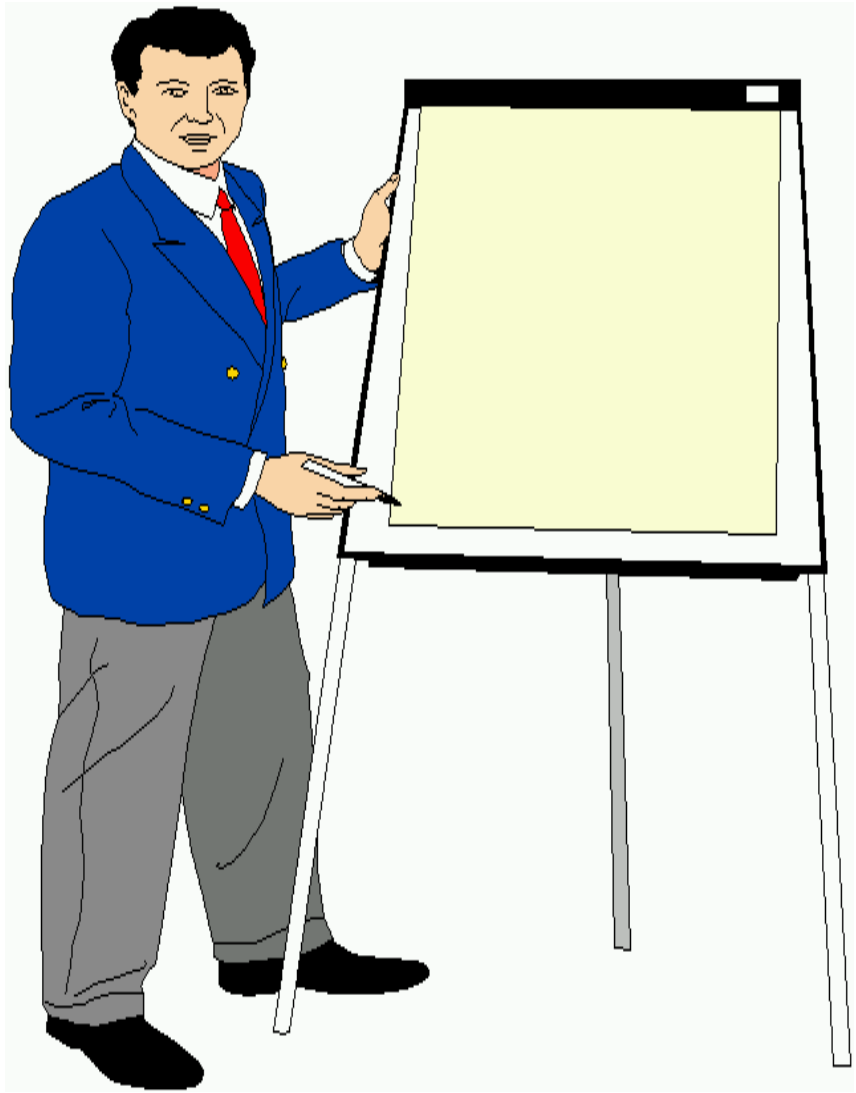
Boosting your ego:

Superb,charismatic, sympathetic, perfect, a “ten”, the best teacher we’ve had so far…

Why teach well?

- Benefits for yourself:

Good teaching contributes to your promotion in academic degrees, in getting tenure



Why teach well?

- For your school/ department

Why teach well?

For your School/Department:

Good teaching contributes to:

- Attracting students
- Good name in your institutions
- Inviting your School’s faculty to give service courses to other Schools/Departments

2. What are the main teaching dimensions, strategies & skills?

Why should we be interested in this issue?

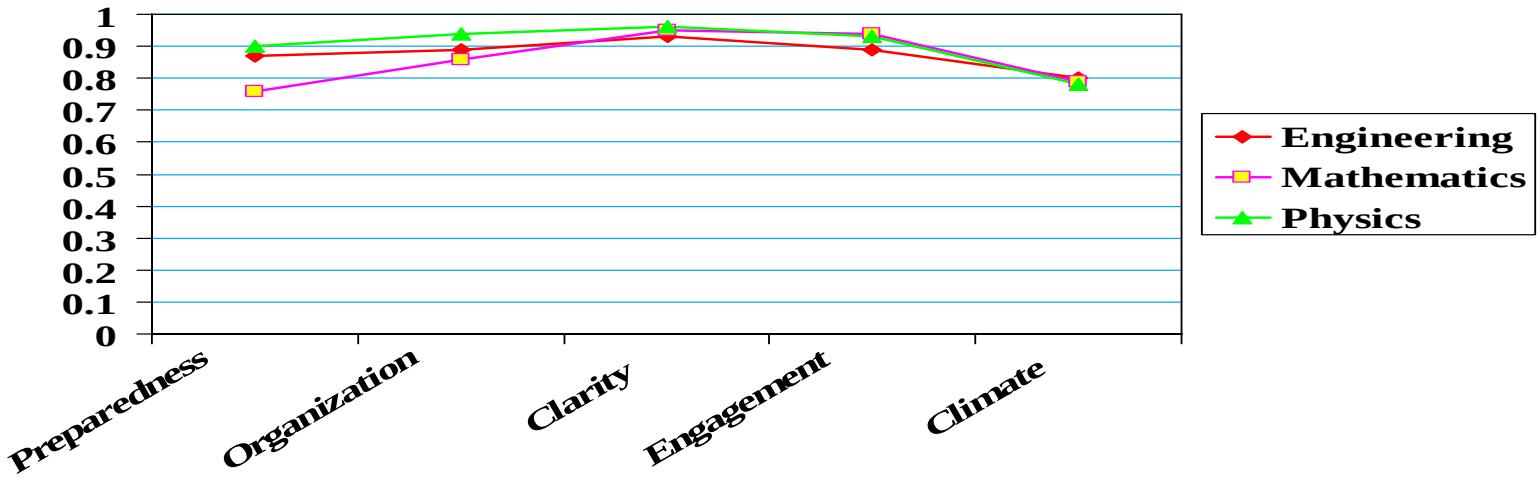
In order to plan and deliver effective lessons that promote students' learning and understanding

Abstract of my talk on clarity in teaching

In the next 4-5 minutes I'll present the content of 1-2 lecture hours

Demonstration

Clarity in teaching means teaching in a way that enables students to understand. Research shows clarity to be a valid, distinct, and stable construct, unaffected by extraneous student or teacher variables. An evidence for the importance of clarity is the very high correlations between students' ratings of their teachers on overall satisfaction from instruction and teacher clarity, as can be seen in this diagram: We see here very clearly that the correlation is the highest on clarity and this is true for all: math, physics, and engineering.



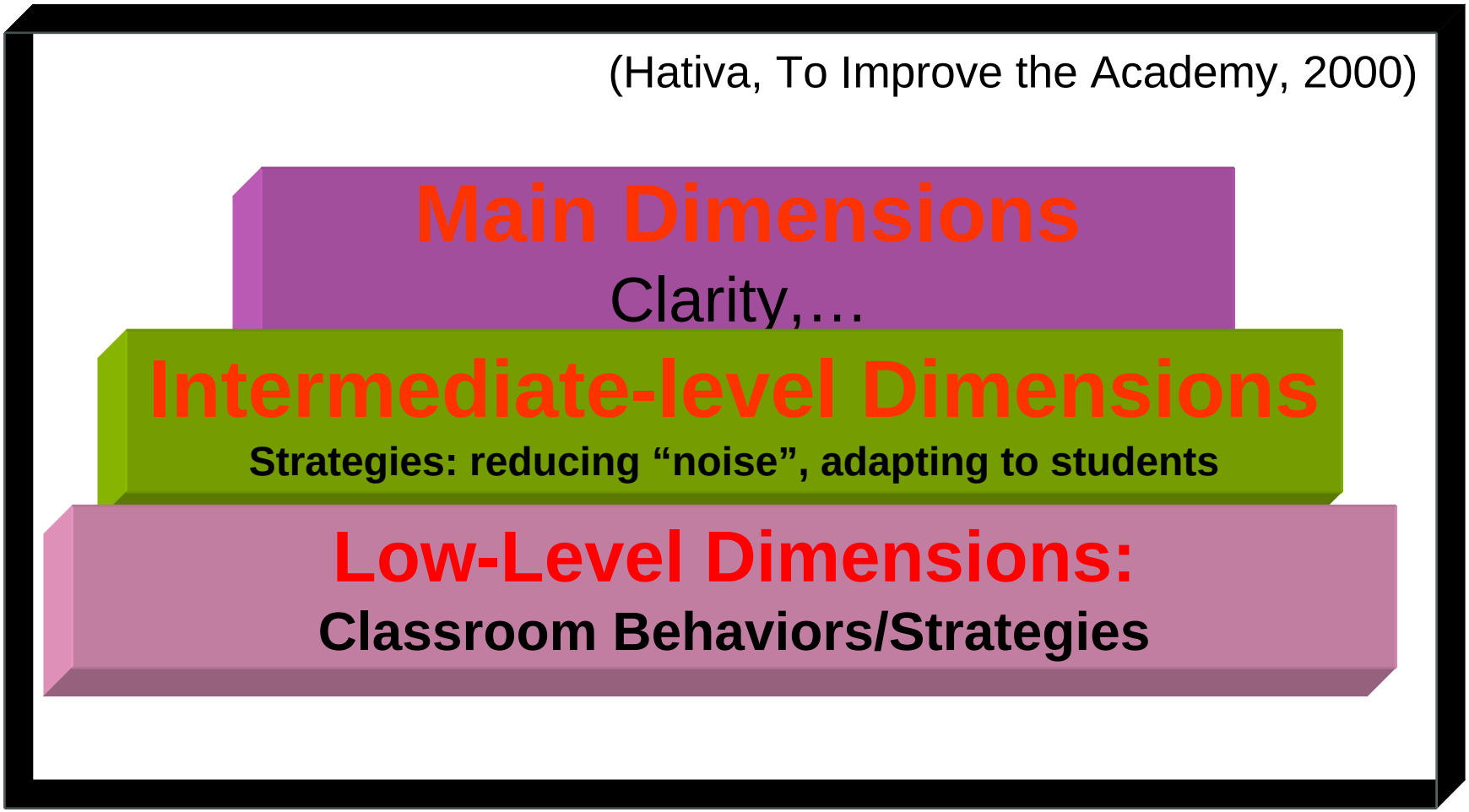
Simplification is a major strategy for achieving clarity in teaching. There are four strategies for achieving simplification: Teaching in two (or more) cycles, teaching in small steps, informing students about the main points of the .logical sequence ,explanations in a coherent

Other clarity behaviors are: avoiding "noise", adapting teaching to the students in class, looking back' and training students in applying the new material.

What was bad?

Hierarchical model of teaching behaviors: Main, intermediate, and low-level dimensions

(Hativa, To Improve the Academy, 2000)



What are the main dimensions of teaching?

Studies to identify the main teaching dimensions

1st type of studies: On the basis of students' ratings of their teachers on survey questionnaires.

One of the most frequently used in the US is the form:

SEEQ: Students' Educational Evaluation Questionnaire

Findings: (Marsh, International Journal of Educational Research, 1987)

SEEQ Scales and Items (paraphrased)	SEEQ Factors				
	Lrn	Enth	Orgn	Grp	Ind
Learning/Value					
Course challenging & stimulating	0.434	0.168	0.103	0.015	0.014
Learned something valuable	0.607	0.083	0.100	0.026	0.050
Increase subject interest	0.646	0.078	0.034	0.039	0.058
Learned & understood subject matter	0.487	0.043	0.176	0.152	0.045
Overall Course Rating	0.410	0.211	0.173	0.041	0.042
Instructor Enthusiasm					
Enthusiastic about teaching	0.095	0.544	0.129	0.072	0.195
Dynamic and energetic	0.064	0.714	0.094	0.059	0.085
Enhanced presentation with humor	0.089	0.650	-0.023	0.103	0.078
Teaching style held your interest	0.137	0.581	0.187	0.131	0.026
Overall Instructor rating	0.172	0.392	0.245	0.083	0.141
Organization/Clarity					
Lecturer explanations clear	0.146	0.165	0.510	0.176	0.060
Materials well explained & prepared	0.069	0.087	0.677	0.060	0.075
Course objectives stated & pursued	0.128	0.026	0.529	0.055	0.070
Lectures facilitated taking notes	0.031	0.040	0.589	-0.093	0.049
Group Interaction					
Encouraged class discussion	0.058	0.103	0.011	0.769	0.070
Students shared knowledge/ideas	0.066	0.049	-0.015	0.797	0.095
Encouraged questions & gave answers	0.059	0.105	0.167	0.583	0.151
Encouraged expression of ideas	0.045	0.069	0.035	0.674	0.182
Individual Rapport					
Friendly towards individual students	0.051	0.163	-0.001	0.176	0.612
Welcomed students seeking help/advice	0.042	0.059	0.061	0.078	0.786
Interested in individual students	0.086	0.140	0.001	0.137	0.647
Accessible to individual students	-0.014	-0.028	0.139	0.037	0.636

These studies identified several clusters of variables that compose the main teaching behaviors

2nd and 3rd types of studies: Studying outstanding teachers

Lowman (Mastering the techniques of teaching 1995, Characteristics of exemplary teachers, 1996)

Study 2: Content Analysis of observations and videotapes of classes of 30 outstanding college and university teachers, and of interviewing them

Study 3: Content analysis of 500 letters of reference (recommendations) submitted to committees to select the best teacher

The two types of studies identified several main teaching behaviors that contribute to the excellence of the teachers

4th type of studies: Indirect evaluation of teachers

(Young & Show, The Journal of Higher Education, 1999)

1000 students were asked each to reflect on the teaching of one of his/her teachers in the previous semester, and to rate that teacher on 25 teaching behaviors, and on the global item: “overall teaching performance”.

Regression analysis identified 8 of the 25 behaviors as providing 87% of the contribution to the global item. These 8 behaviors can be regarded as the main dimensions of teaching performance.

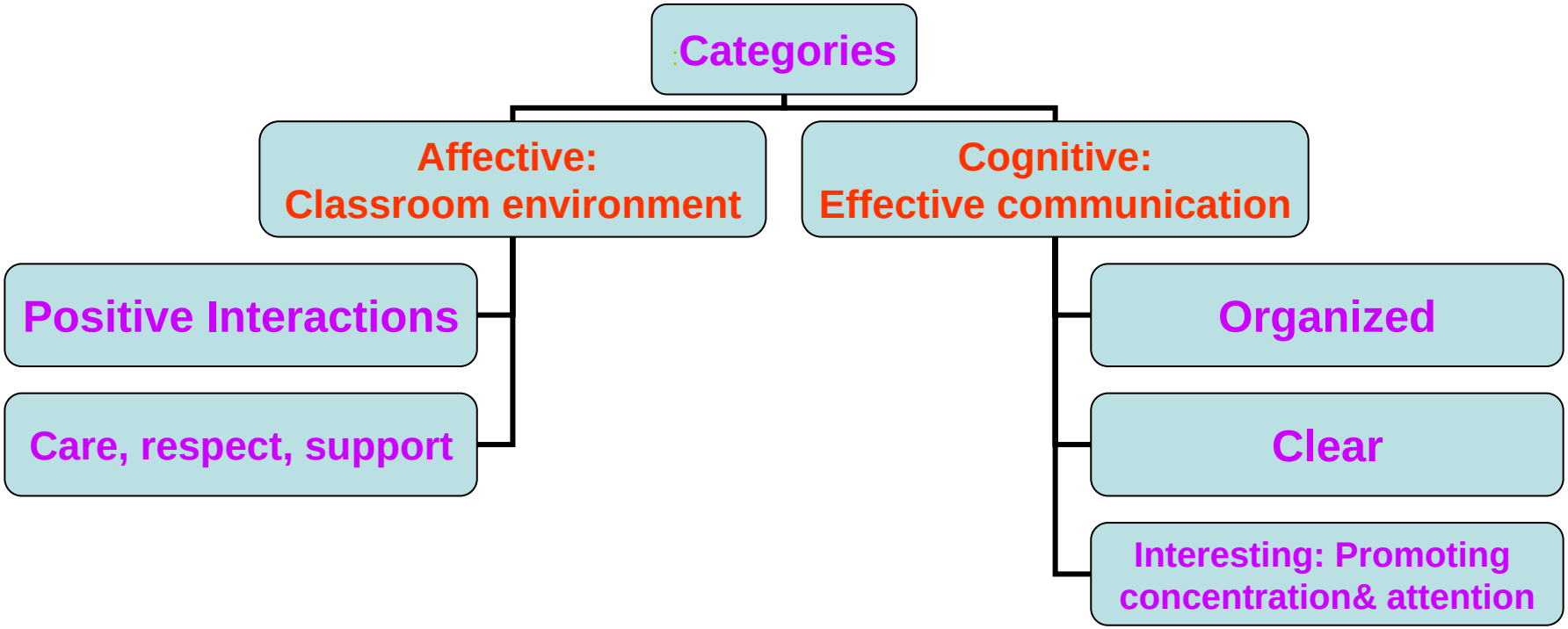
What are the main dimensions of teaching that come out from the four types of studies?

Results of all these studies converge to a single model of teaching dimensions, which may be sorted into two categories;

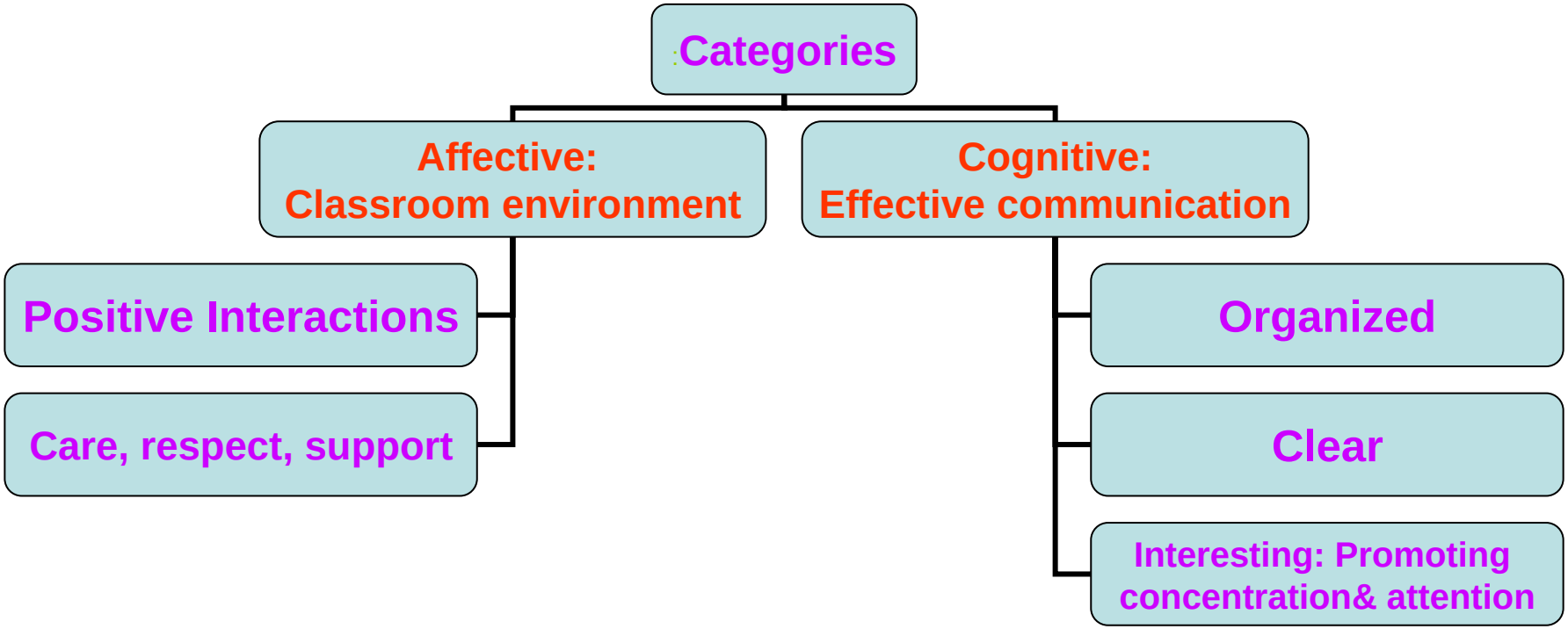
1. **Cognitive**: Effective communication of the material to the students, and

2. **Affective**: Interpersonal relationships—Positive interactions with the students

A model of Main Teaching Dimensions

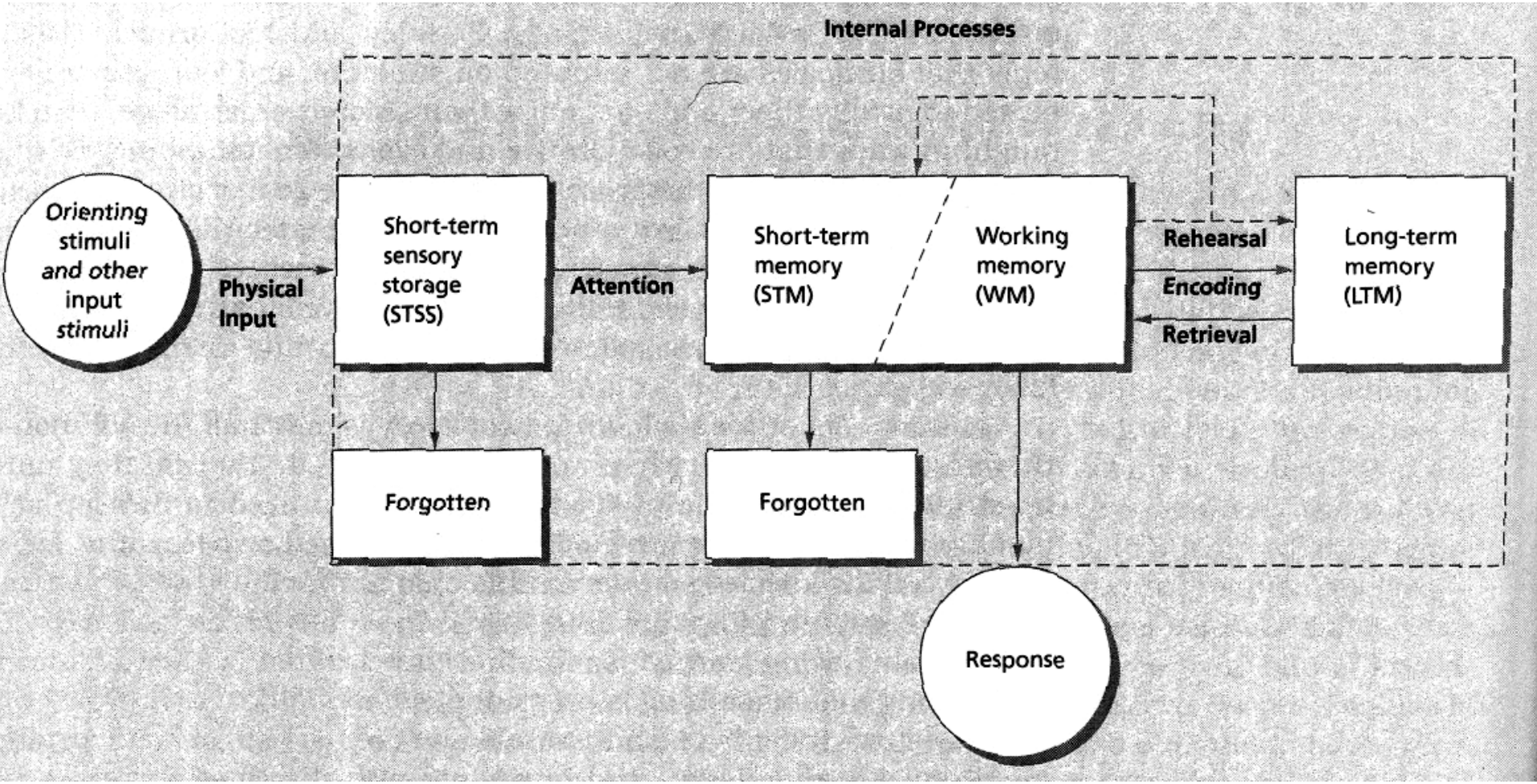


How do the main teaching dimensions contribute to learning?



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…

What are students' preferences of the main teaching dimensions?

Are there dimensions that are more important to students' learning than others?

That are a necessary condition of good teaching?

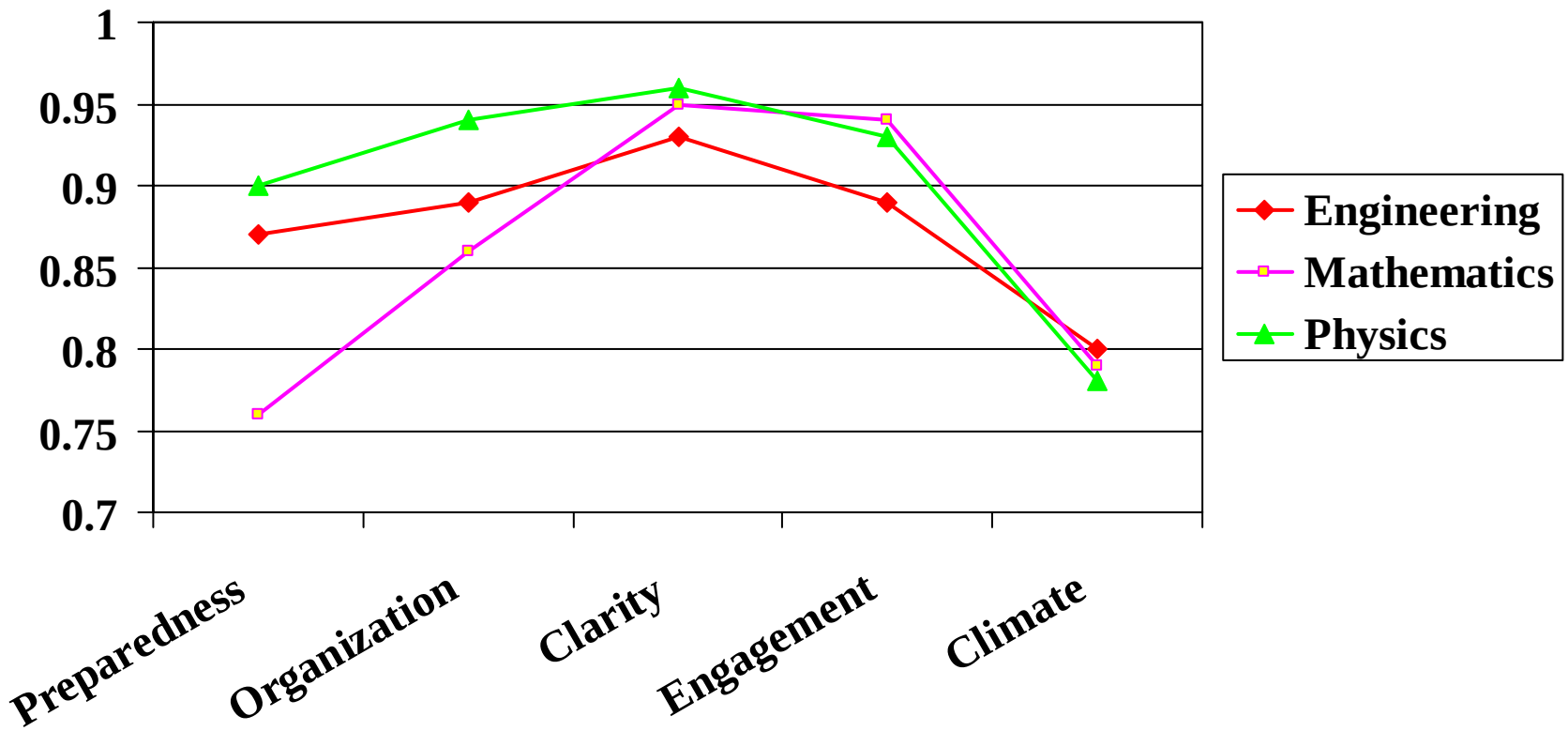
Correlations between teacher overall performance and other items, Stanford Math Dept. 1981, n=53

Teaching dimension/strategy	R
Clarity of presentation	0.98
Course satisfaction	0.97
Teacher preparation	0.96
Clarification of key themes	0.93
Course contribution	0.92
Clarity and progression of topics	0.90
Stimulation of thought and creativity	0.89
Instructor relationships with students	0.88
Teacher interest in subject matter	0.83
Student interest in subject matter	0.83

Correlations between teacher overall performance and other items, Stanford Physics Dept. 1994-5, n=53

Teaching dimension/strategy	R
Clarity of presentation	0.82
Interesting presentation	0.82
Intellectual challenge	0.75
Attitudes towards students and questions	0.71

Correlations between teacher overall performance and main dimensions, TAU, 1996



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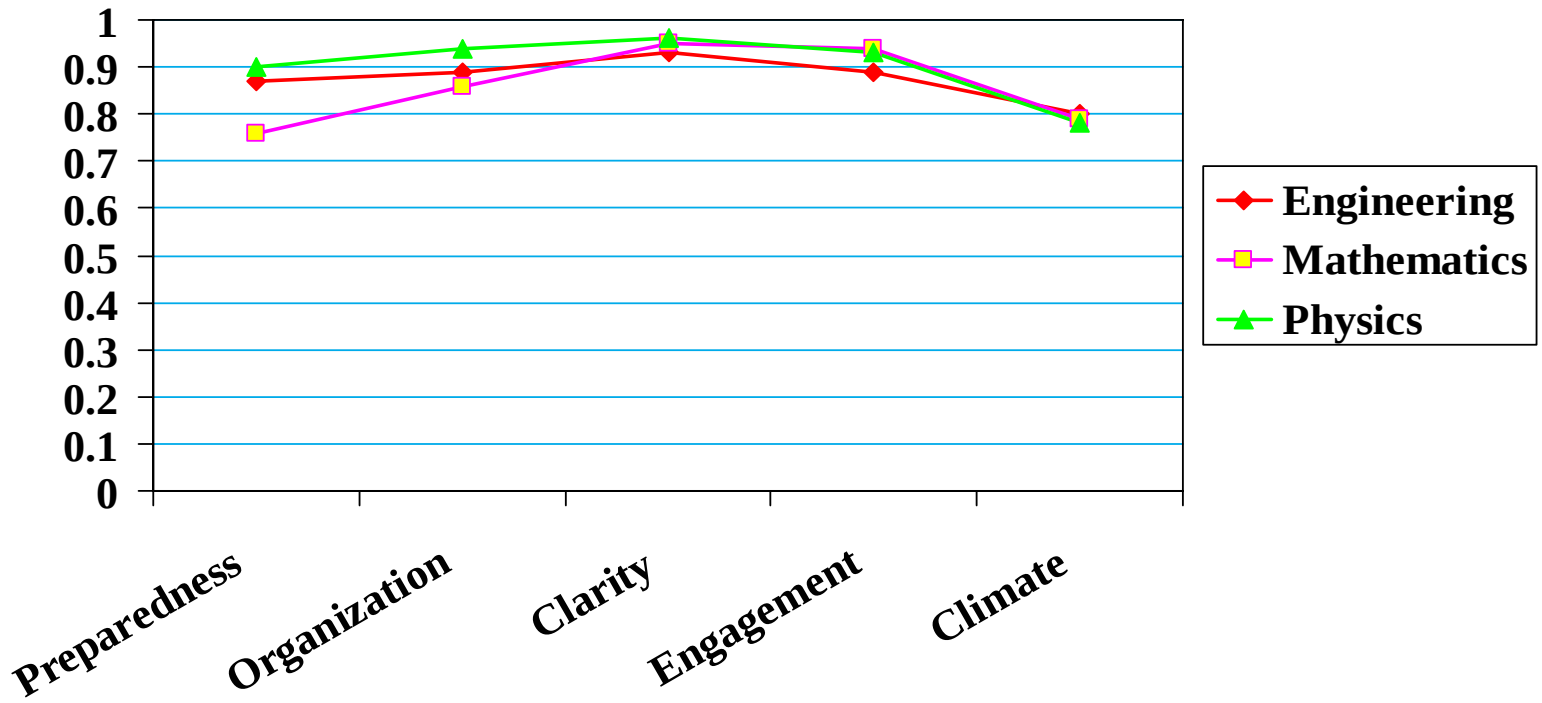


Integration of studies on effective teacher behaviors at the school level: Rosenshine & Furst, 1971

50 studies of correlations between teacher classroom behavior and student achievement.

Findings: Teacher behavior which yielded the strongest relationships with student achievement was clarity

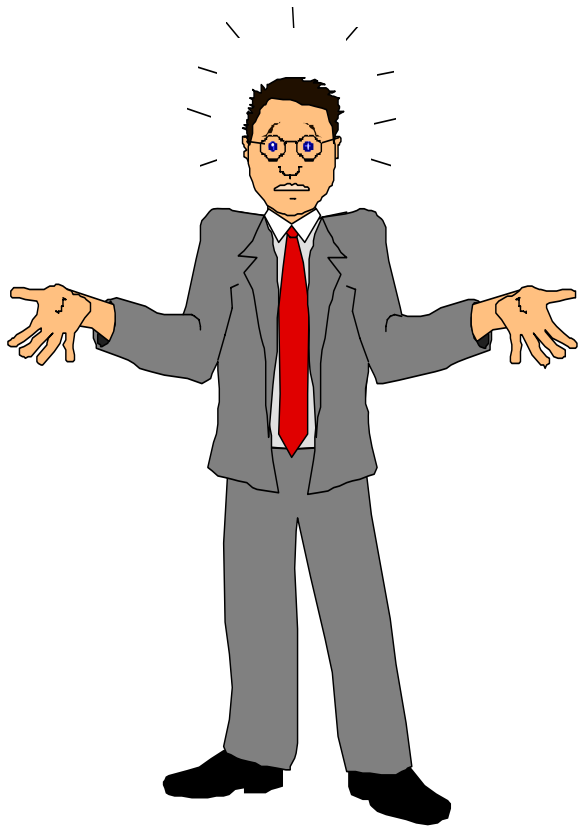
Integration of studies on effective teacher behaviors at the higher- education level: Feldman, 1989

Examined 22 instructional dimensions for four indicators of importance:

1. Correlations with student achievement
2. Correlation with overall evaluation of the instructor
3. Statement of importance by faculty
4. Statement of importance by students

Findings: Clarity and understableness showed to have the highest importance level regarding all four indicators (the 2nd was--teacher preparedness and organization)

Are there disciplinary differences in students' preferences of the main teaching dimensions?



Are there disciplinary differences in students' preferences of the main teaching dimensions?

Feldman, Research in Higher Education,1976

In mathematics, physical sciences, engineering, and mathematics-based domains:

1st place: Clarity (with organization)

2nd place: Interesting presentation—maintaining contentration & attention

In humanities, education, arts, social studies:

1st place: Intellectual challenge, interesting presentation

2nd place: Clarity

How do excellent teachers use the main teaching dimensions?

How do excellent teachers use the main teaching dimensions? Summary of research findings

There is no single way to achieve excellence in teaching

It is necessary to excel in a few (at least two) of the main dimensions of teaching, to be at least “good” on clarity and to be OK on the others.