STEPUPIRS

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Preparing Future Faculty for Teaching

Makis Zoidakis, PhD

Assistant Professor of Biochemistry
Biology Department
NKUA

Affiliated Faculty
Proteomics Laboratory
BRFAA

izoidakis@bioacademy.gr

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HELLENIC REPUBLIC
National and Kapodistrian University of Athens
EST. 1837

ACADEMY OF ATHENS

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BIOMEDICAL RESEARCH FOUNDATION ACADEMY OF ATHENS

Outline

- Preparing to teach a class- Syllabus
- How do people learn? Promoting discussion
- Exams and other natural disasters
- Feedback/evaluation
- Teaching values?
- Counseling/Mentoring

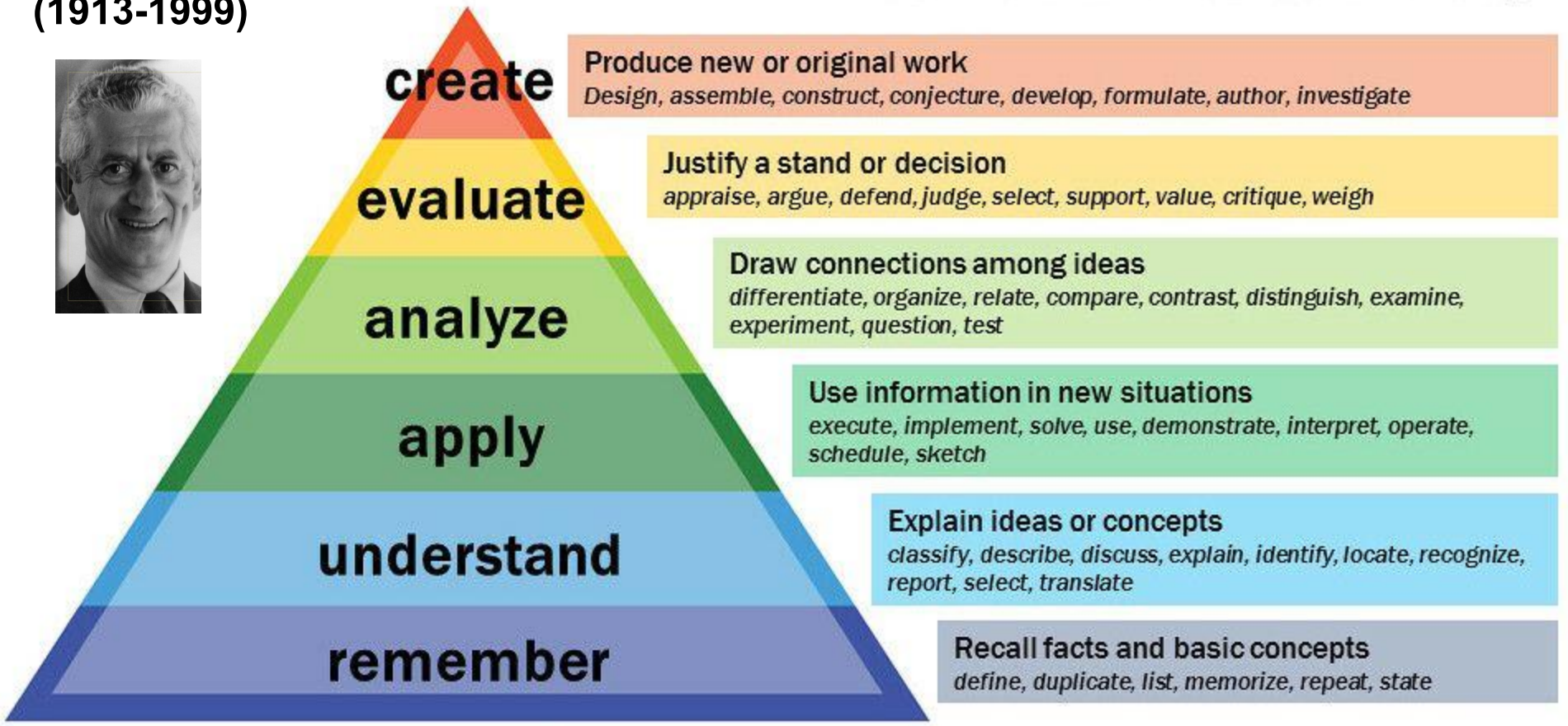
Class Preparation steps

- Write learning objectives (goals) and outcomes
- Select textbook(s) and other resources
- Draft a syllabus
- Prepare lesson plans/out-of-class learning activities
- Check classroom/laboratory

Learning Objectives Learning Outcome(s)

Benjamin Bloom
(1913-1999)

Bloom's Taxonomy



Please write down the expected learning objectives and outcome(s) for a class you would like to teach

Anderson, L.W., Krathwohl, D.R., Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J. & Wittrock, M.C. (eds.) (2001) A taxonomy for learning and teaching and assessing: A revision of **Bloom's taxonomy of educational objectives**.
Addison Wesley Longman

Syllabus: a **contract** between students and teacher

Contents:

- Course description/Learning objectives/textbook
- Schedule of lectures/educational activities (dates)
- Assignments: due date! Policy for late completion
- Exam schedule
- How learning will be assessed/grades assigned
- Office hours

How do people learn?

- Evolution from concrete to abstract thinking
- Major part of learning takes place OUTSIDE the classroom!
- The role of discussion and active participation of the student in the learning process
- A teaching environment that promotes student participation is the key

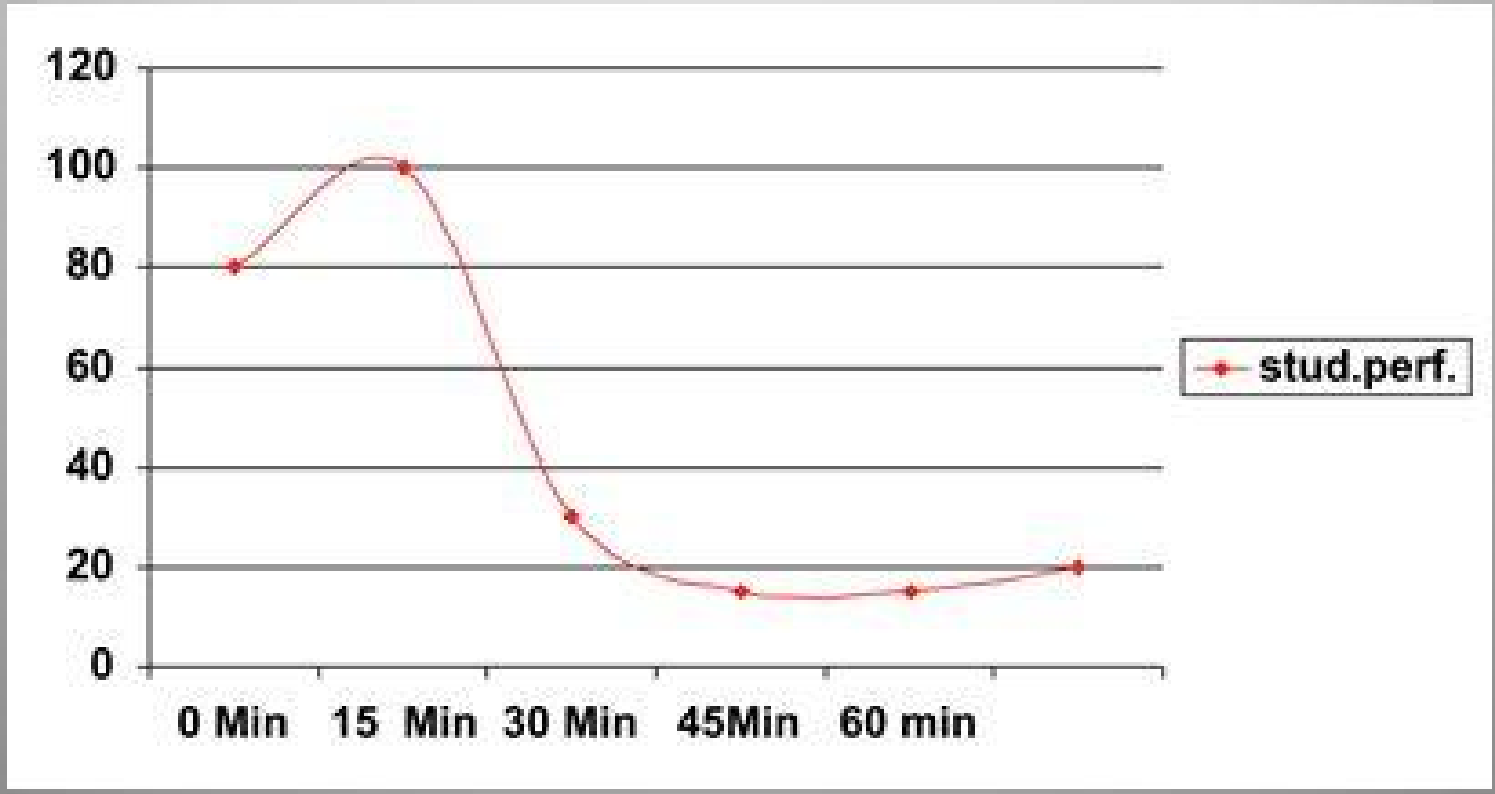
Jean Piaget (1896-1980)

Within the classroom learning should be student-centered and accomplished through active discovery learning.
The role of the teacher is to facilitate learning, rather than direct tuition.

https://www.simplypsychology.org/piaget.html

Students' attention span

(Gibbs, G. and Habeshaw, T. (1989) *Preparing to Teach*. Technical and Educational Services)



Making the best of your lecture

Most people learn....

10% of what they read

20% of what they hear

30% of what they see

50% of what they see and hear

70% of what they talk over with others

80% of what they use and do in real life

95% of what they teach someone else

Glasser quoted in Biggs,J. (1999)*Teaching for Quality Learning at University.*Buckingham:SRHE and Open University Press . P78

Original teaching methods

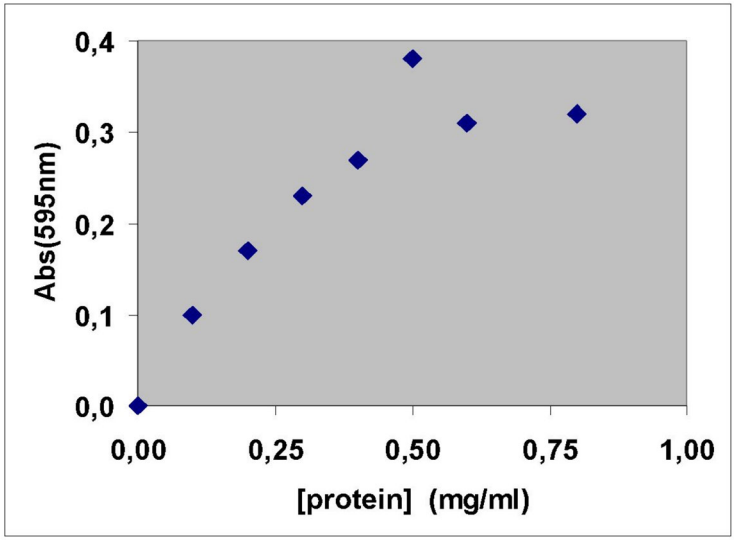
- Singing/Dancing
- Video-clips (Neil Garg)
- Theater in the classroom (Margie Bates)

Using technology

- Internet (Course website, Virtual Office Hours)
- Mobile phone applications

Laboratory teaching

- Avoid cook book laboratories
- Design experiments with variable outcomes
- Keep laboratory reports short
- Use the Socratic method of teaching (see example below)



The student asks if this Bradford standard curve is OK.

What is an appropriate answer?

Assessing student learning

- Assignments (paper, lab report, Calibrated Peer Review, videos)
- Immediate feedback in class
- Review sessions before exams
- Exams (written and/or oral): how should we prepare exams that promote student learning?
- Assigning grades: Never grade on a curve!

Teaching Assistants

- Training and monitoring TAs is essential
- Weekly meetings are required
- Detailed exam keys prevent inconsistencies in grading

Delicate situations/problems

The hardest questions that you will have to answer as teachers are not relative to the subject matter

- Late assignments
- Regrade requests (the story of Parnaj Barnajian)
- Cheating (plagiarism, copying during exams, lab data falsification). Read carefully the rules of the university for academic misconduct!
- Students with learning disabilities

Feedback/Evaluation

- Midterm evaluation necessary by students/faculty
- Filming the class is useful but watch the video with colleagues

Sample evaluation Form Questions

The Professor

Gives clear, well-structured presentations
Answers questions in a manner which facilitates learning
Is able to convey knowledge in a clear and organized manner
Uses visual aids well
Is enthusiastic and motivating teacher
Is knowledgeable in the field being taught
Is receptive to questions
Involves students in probing the reasoning process
Allows student participation in the learning process
Encourages students critical appraisal of information presented
Overall assessment of teaching/instructional abilities

Course Characteristics

Please rate the course in the following categories using the following scale (Low, Medium, High)

Difficulty (relative to other courses)
Lecture presentations quality
Examination quality
Subject interest before course
Subject interest after course

Teaching values:
can we?
should we?

- Moral education (do not cheat, help thy neighbor)
- Ethics: DNA structure determination
- Subjectivity in teaching (PhysioloGilles, BiocheMakis)

Counseling/Mentoring

- Helping students find their way in life is challenging and each case is unique
- The stories of Michael Urbach, Kim Vu, Maria Frantzi

Teaching Resources

Books

- Teaching tips (WJ McKeachie) 2002
- Taxonomy of Educational Objectives (Bloom) 1956
- A Revision of Bloom's Taxonomy (Anderson/Krathwohl) 2001
- Soumission (Michel Houellebecq) 07/01/2015 (Submission 09/2015)

Films

Madadayo (Akira Kurosawa)

An irrational man (Woody Allen)

Journals

Biochemistry and Molecular Biology Education

The Atlantic Monthly

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- Letta Duye (French Literature Professor, Highschool)
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- Orville Chapman (Organic Chemistry Professor, UCLA)
- All my students

The First Step by C. Kavafis

The young poet Evmenis
complained one day to Theocritus:
"**I've been writing for two years now**
and I've composed only one idyll.
It's my single completed work.
I see, sadly, that the ladder
of Poetry is tall, extremely tall;
and from this first step I'm standing on now
I'll never climb any higher."

Theocritus retorted: "Words like that
are improper and blasphemous.
Just to be on the first step
should make you happy and proud.
To have reached this point is no small
achievement:
what you've done already is a glorious
thing.
Even this first step
is a long way above the ordinary world.
To stand on this step
you must be in your own right
a member of the city of ideas.
And it's a hard, unusual thing
to be enrolled as a citizen of that city.
Its councils are full of Legislators
no charlatan can fool.
To have reached this point is no small
achievement:
what you've done already is a glorious
thing."