Assessment: The silent killer of learning

Universiteit Groningen
Groningen, Netherlands, 26 November 2015

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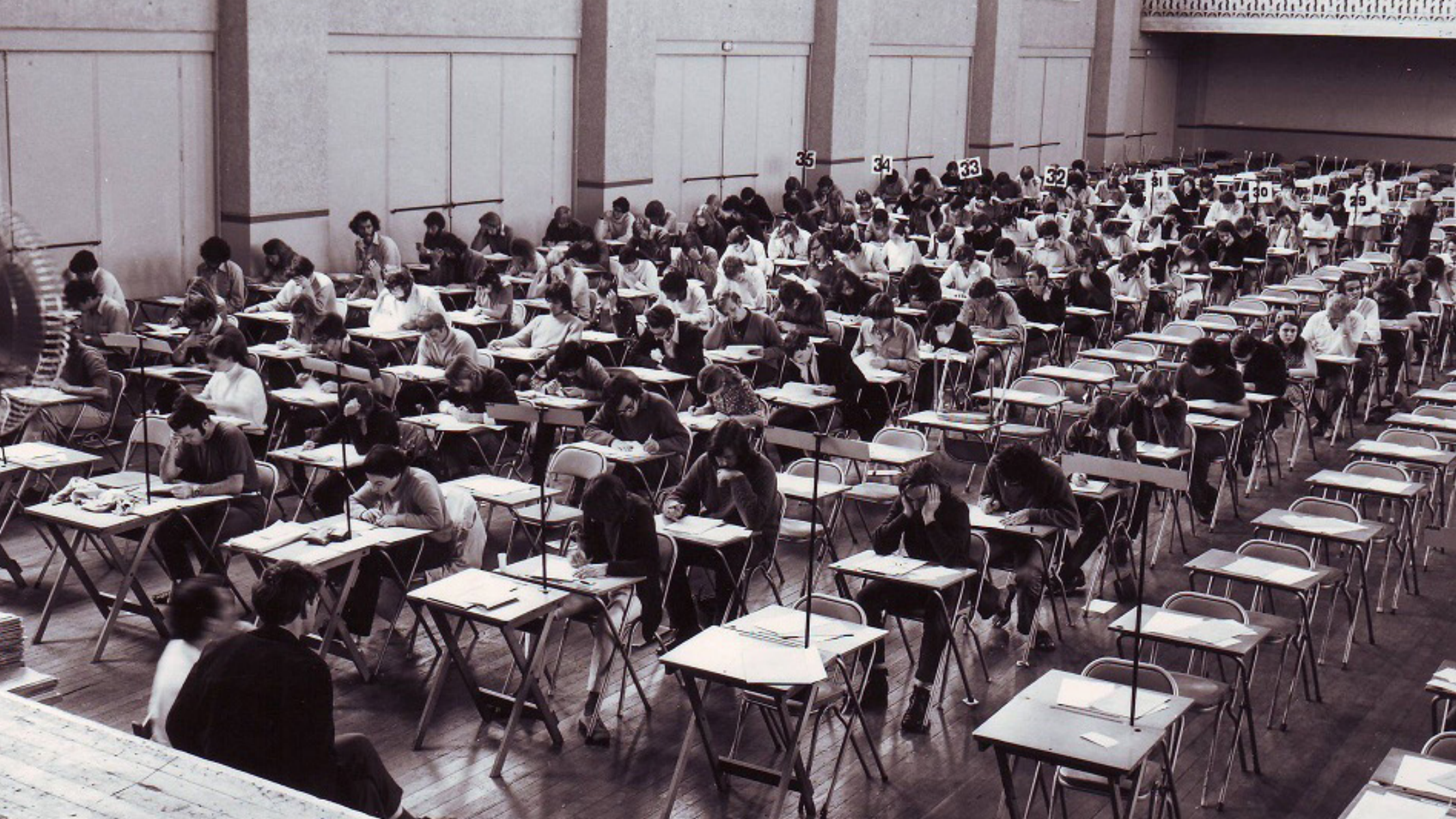
kosten
1. die Kosten (pl.)
2. kostbar
krank
455
1. die Krankheit, —, —en
cow
377
magnificen
glo
1. magnifice
2. master
428
kennen irreg.
kannte-gekannt
1. kennen-lernen
2. erkennen
3. bekan
4.
430
endid
das Kind, —(e)s, —e
1. kindisch
2. kindlich
der Kellner, —s, —
1. der Keller, —s, —
think
poco rit.

kosten
kennen
kannte-gekannt
1. kennen-lernen
2. erkennen
3. bekannt
think
428
Verizon 3G
4:20 PM
Flashcards
Back
23 of 100
pedantic
adj. ostentatious in one's learning
Search
Popular
Subjects
Grade Levels
Standardized

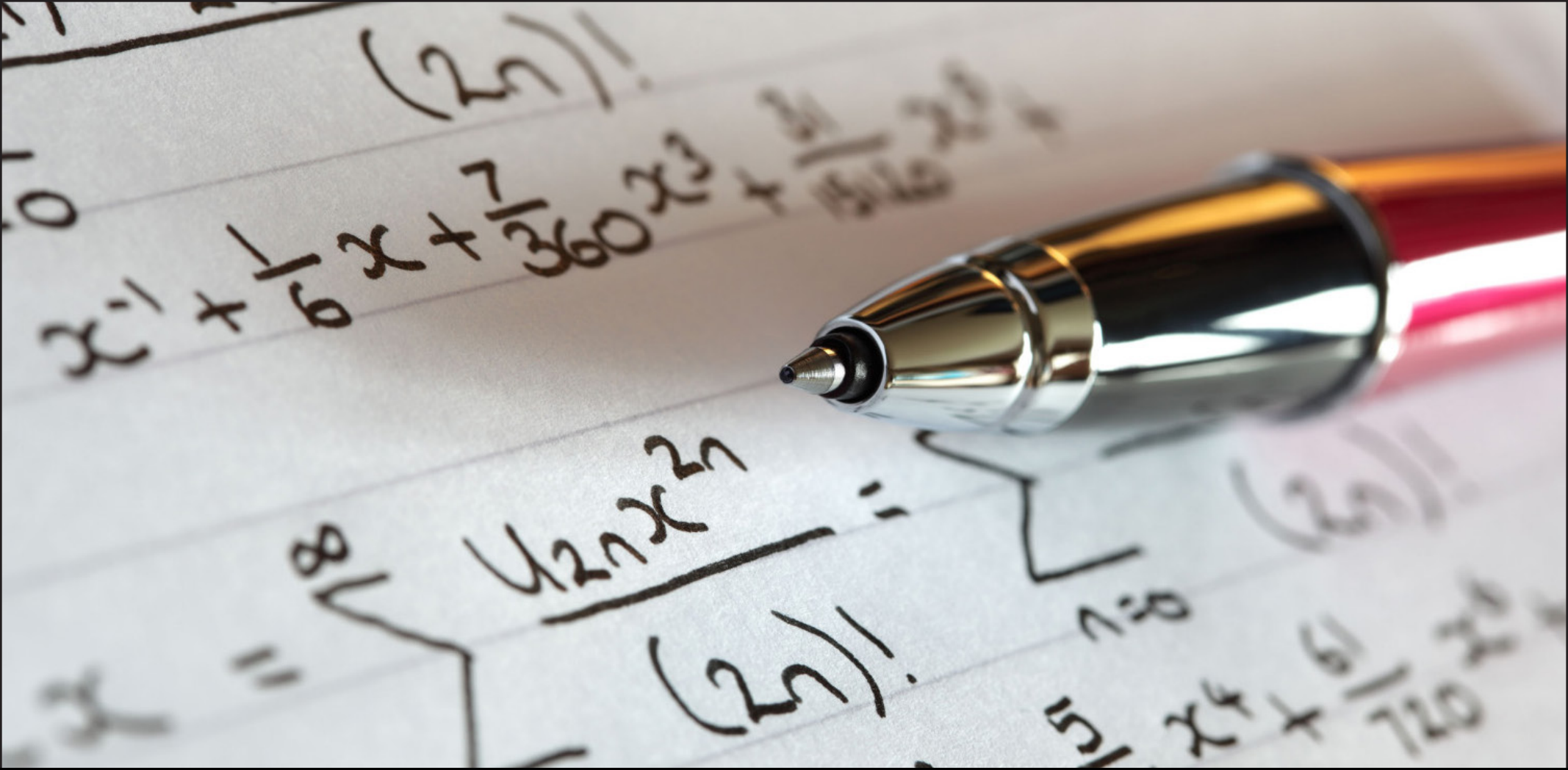
35% retained
after 1 week

we only guarantee they'll pass the test

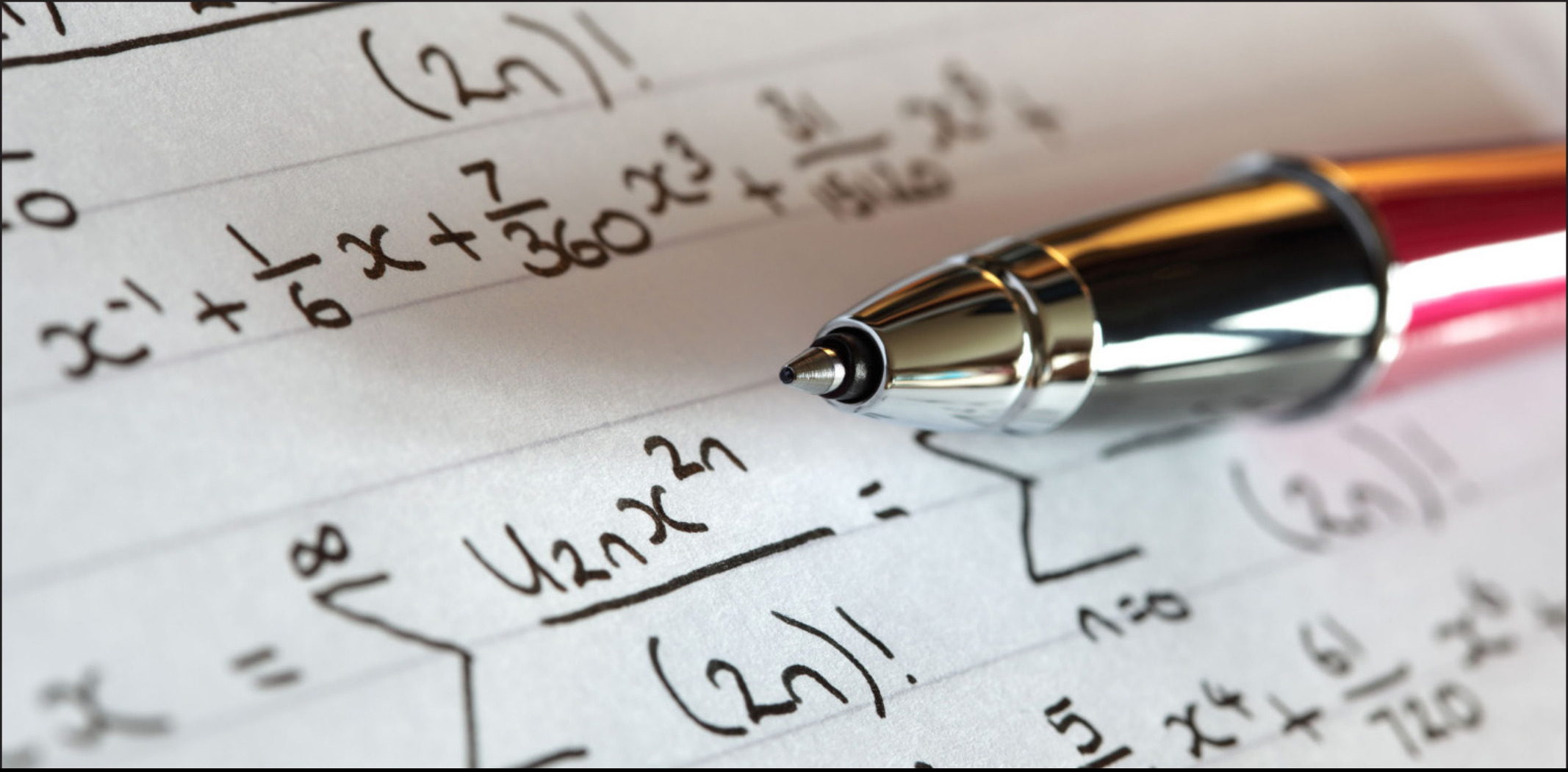

35
34
33
32
31
30
29

assessment focussed on ranking and classifying,

not on developing 21st century skills

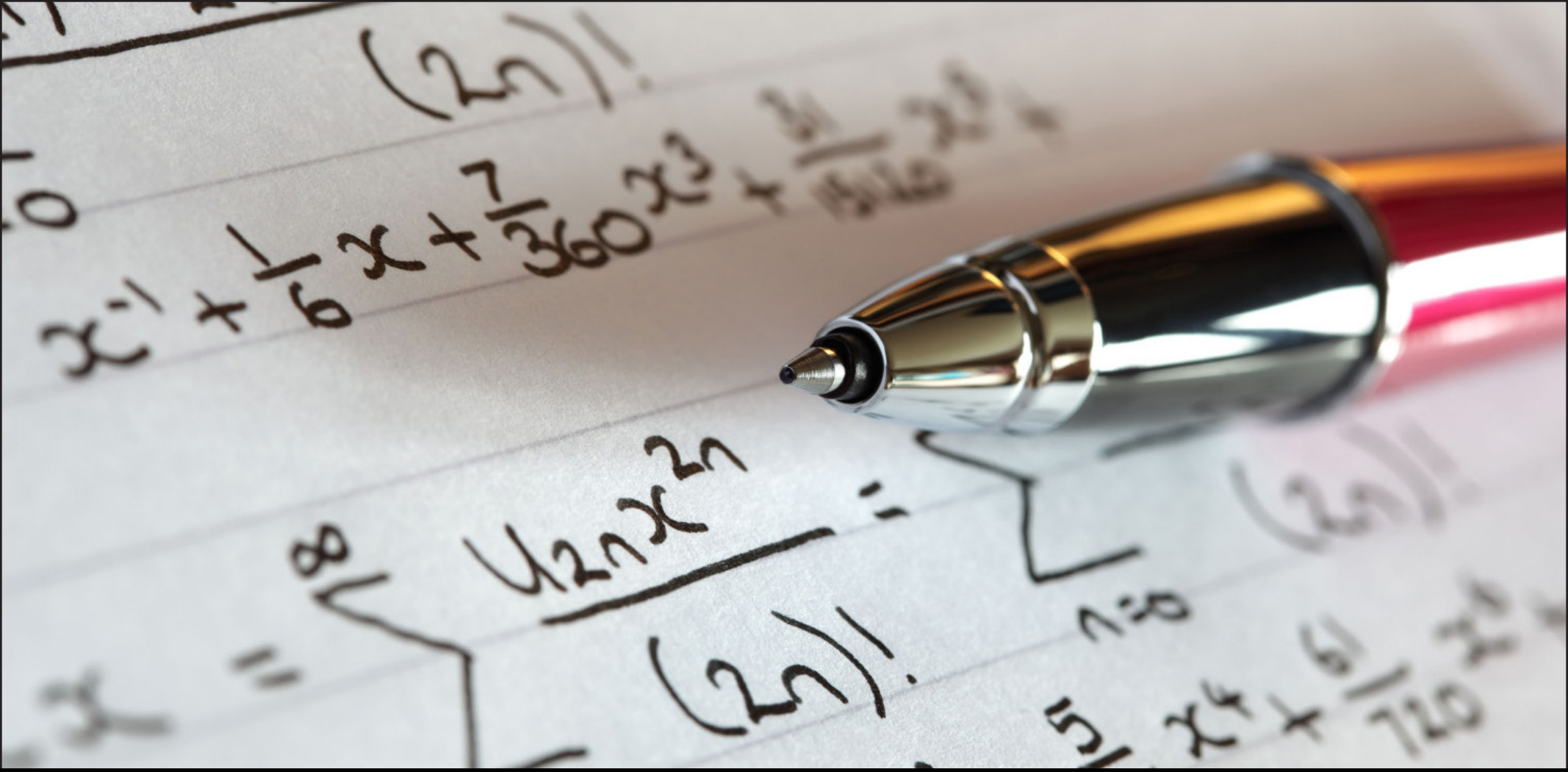


1 purposes



1 purposes

2 problems



1 purposes

2 problems

3 improvements

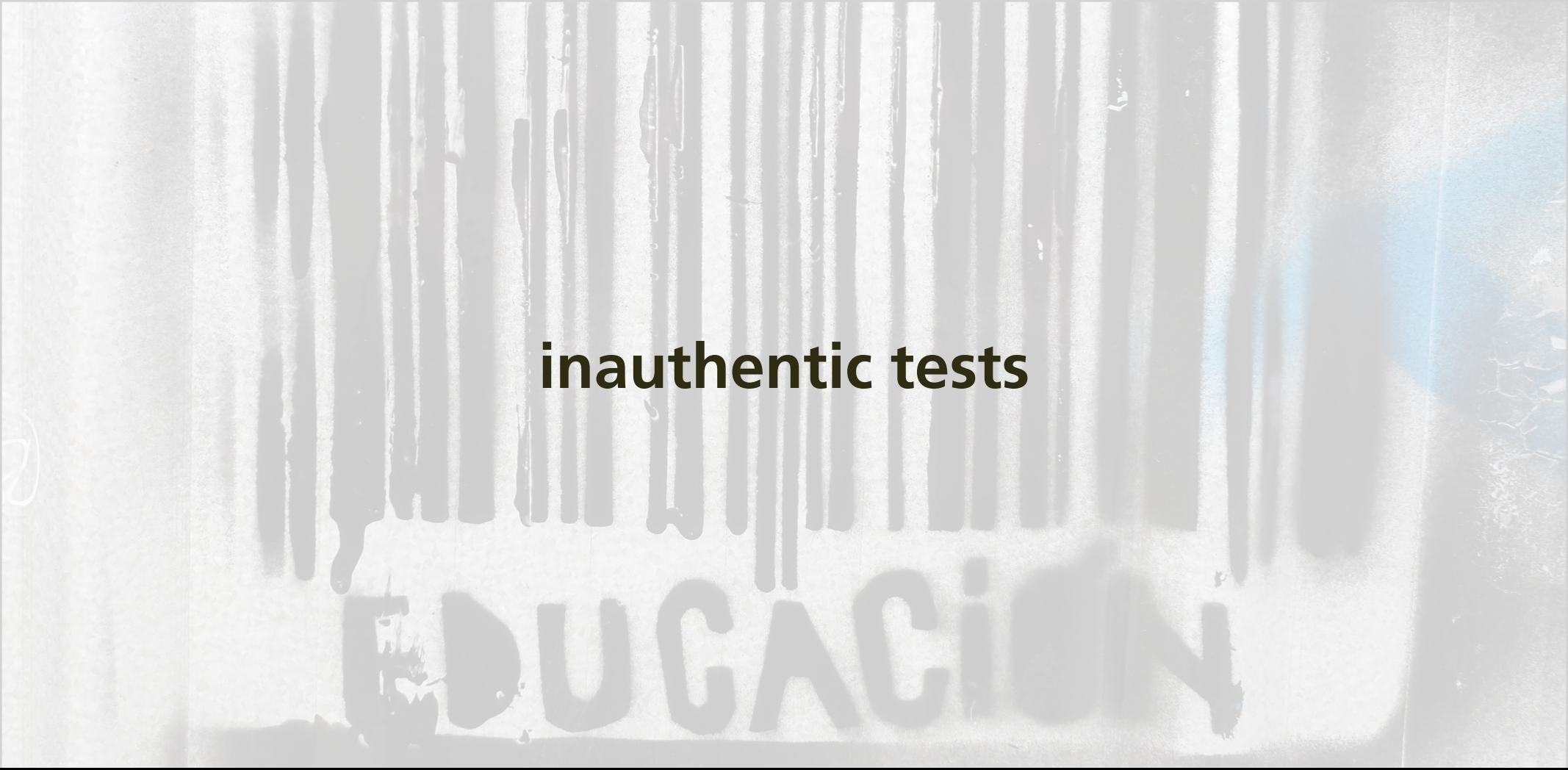
how many different purposes of assessment can you think of?

1. rate students
2. rate professor and course
3. motivate students to keep up with work
4. provide feedback on learning to students
5. provide feedback to instructor
6. provide instructional accountability
7. improve teaching and learning

1 purposes

1 purposes

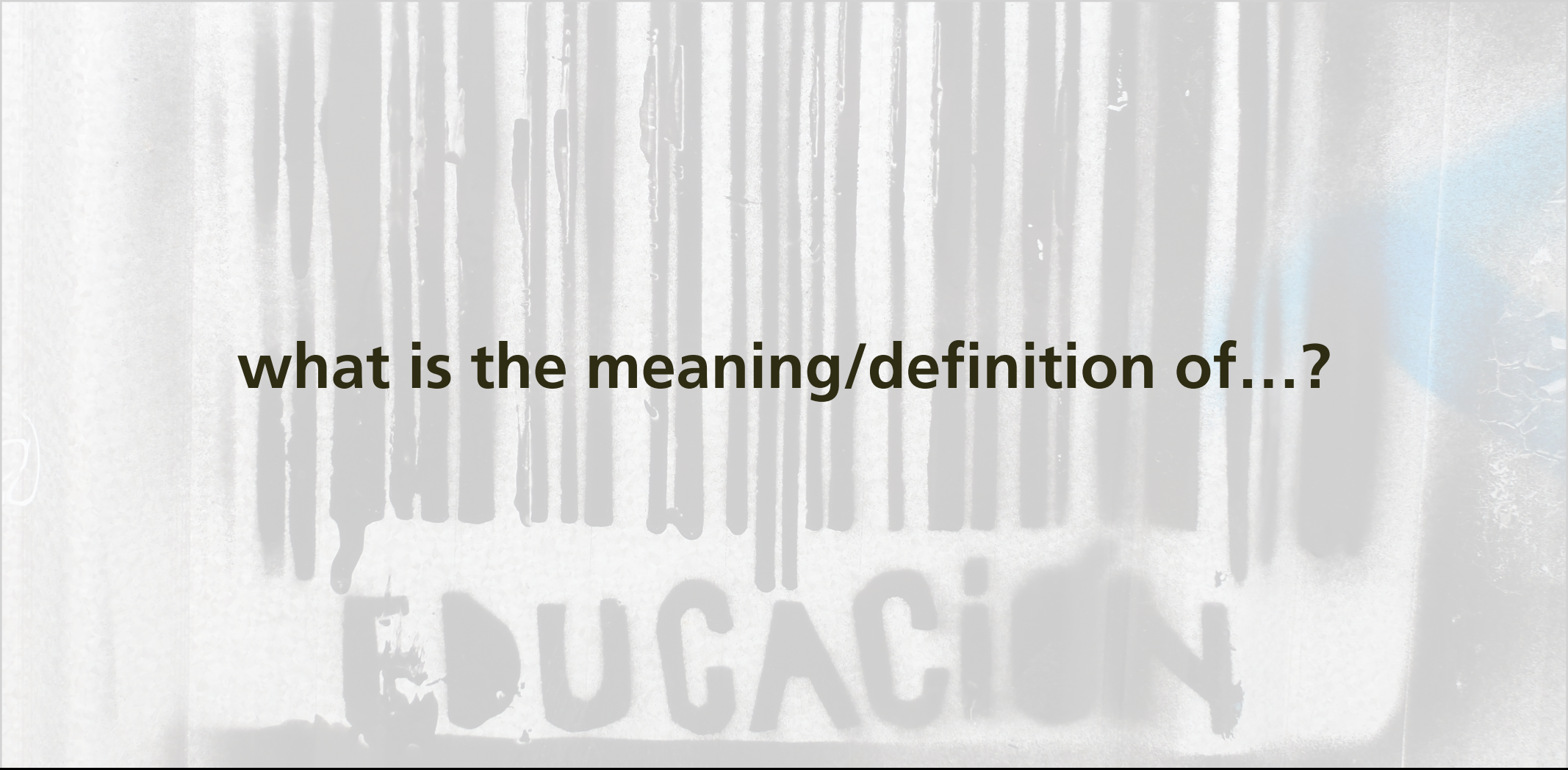
2 problems



inauthentic tests

1 purposes

2 problems



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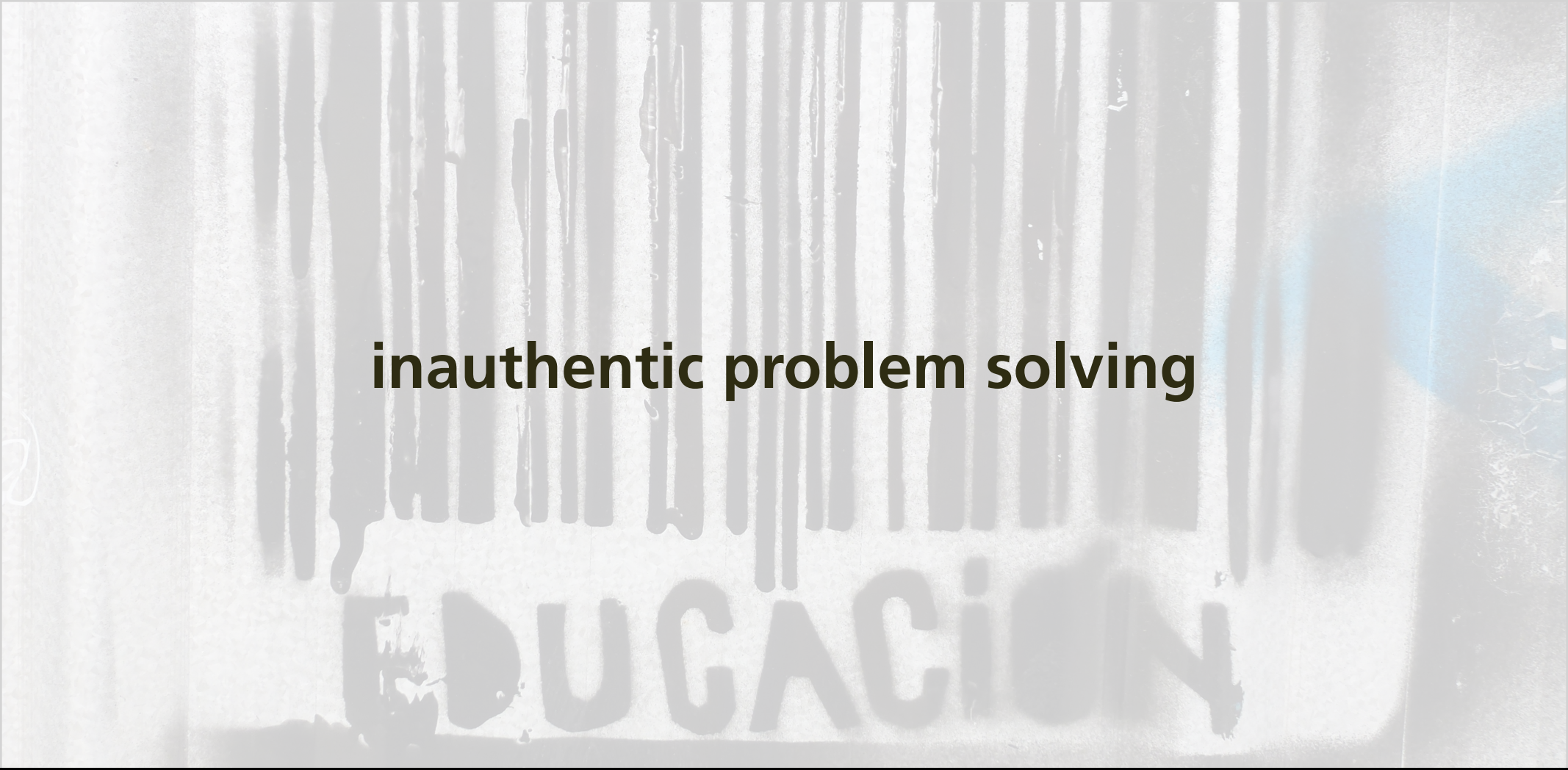
2 problems



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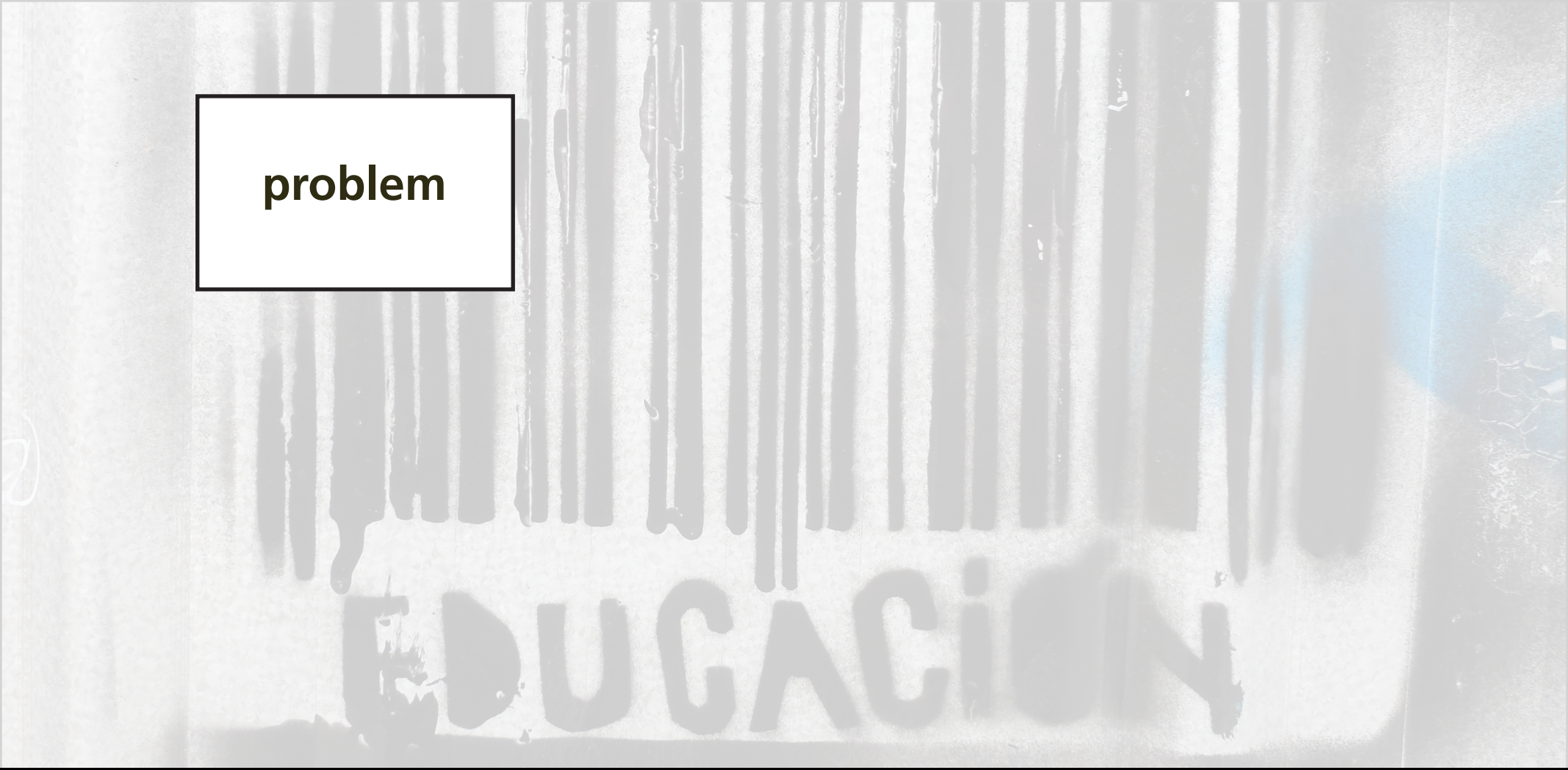
2 problems



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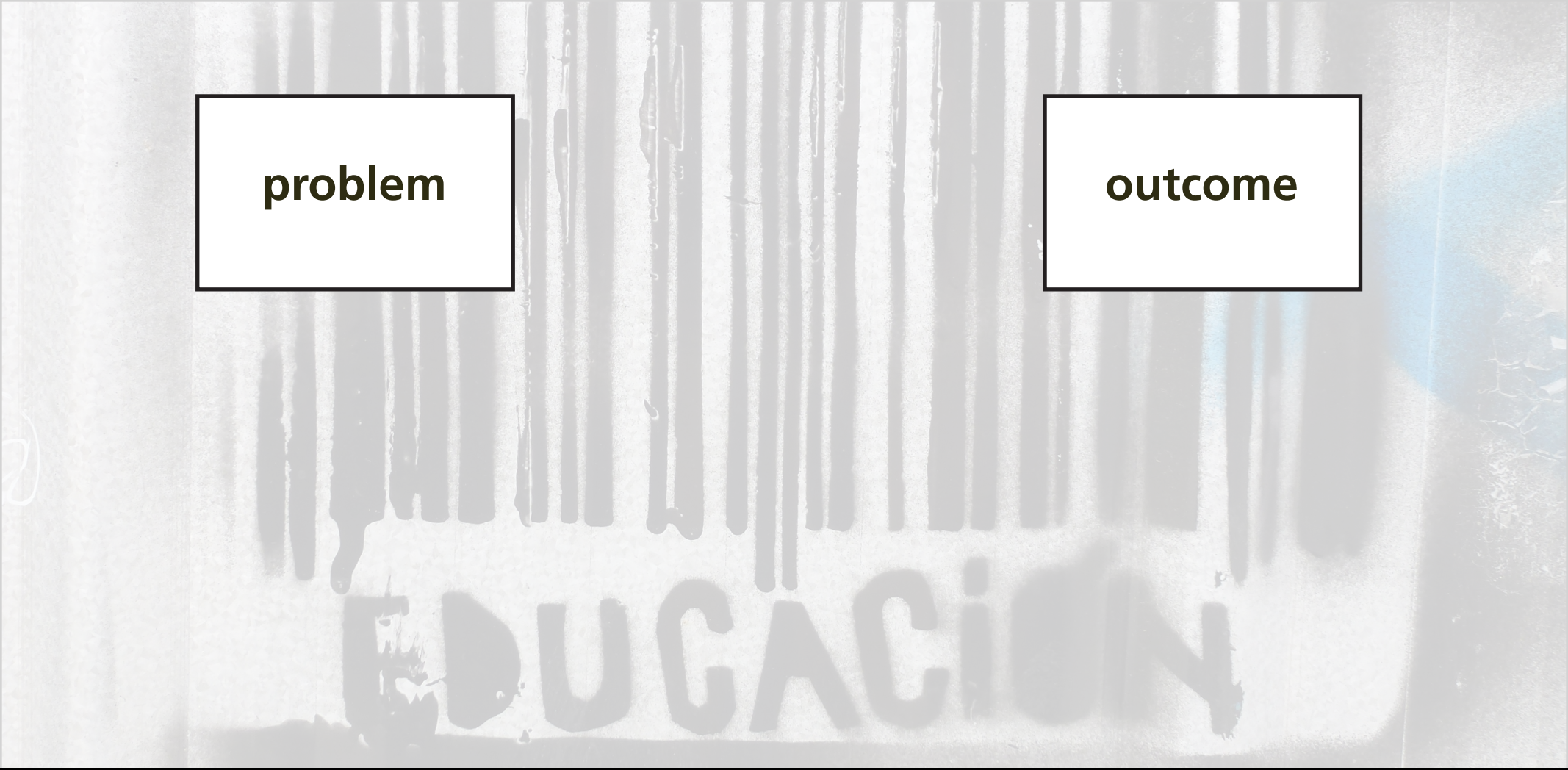

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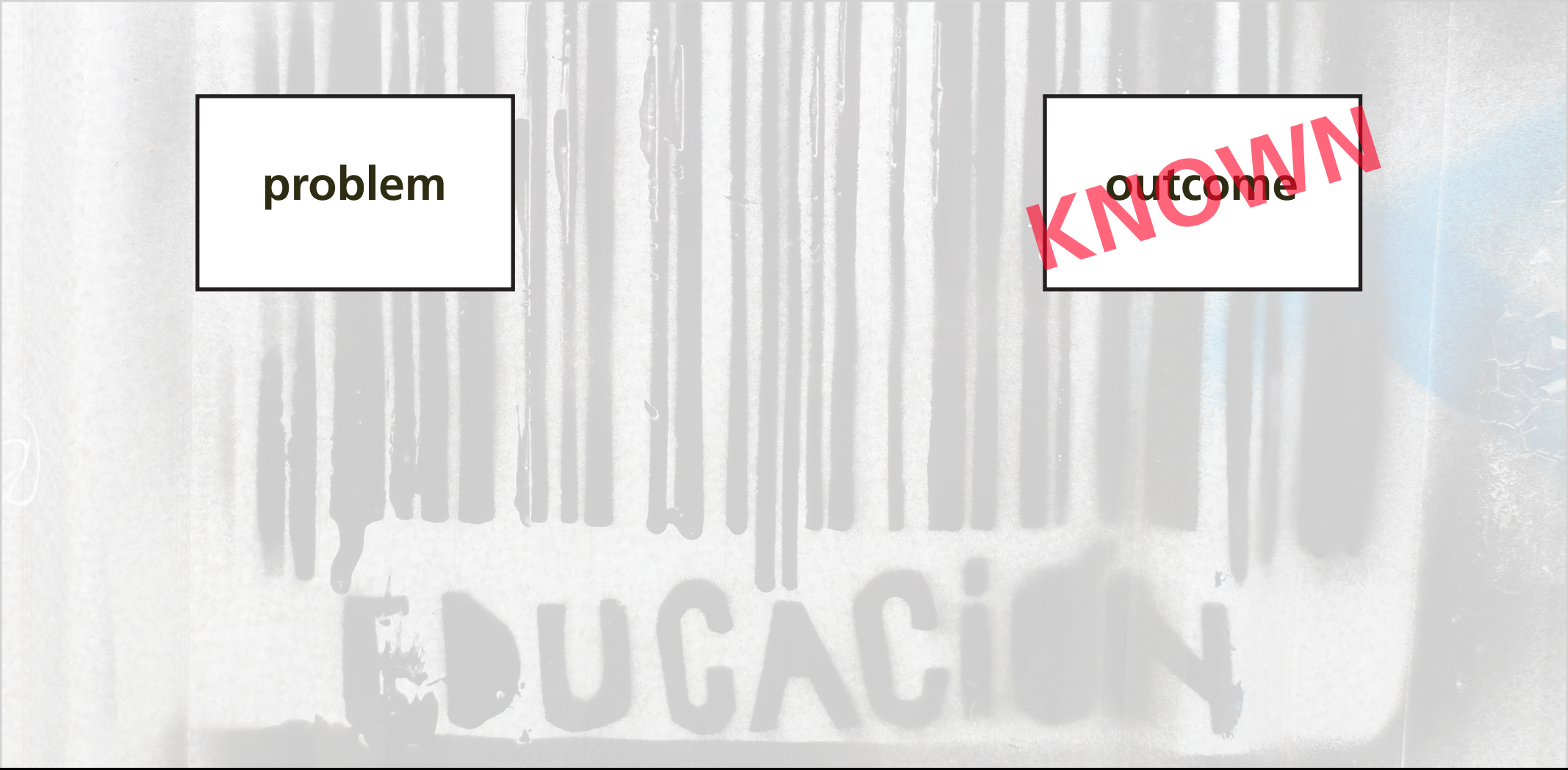

1 purposes

2 problems

1 purposes

2 problems

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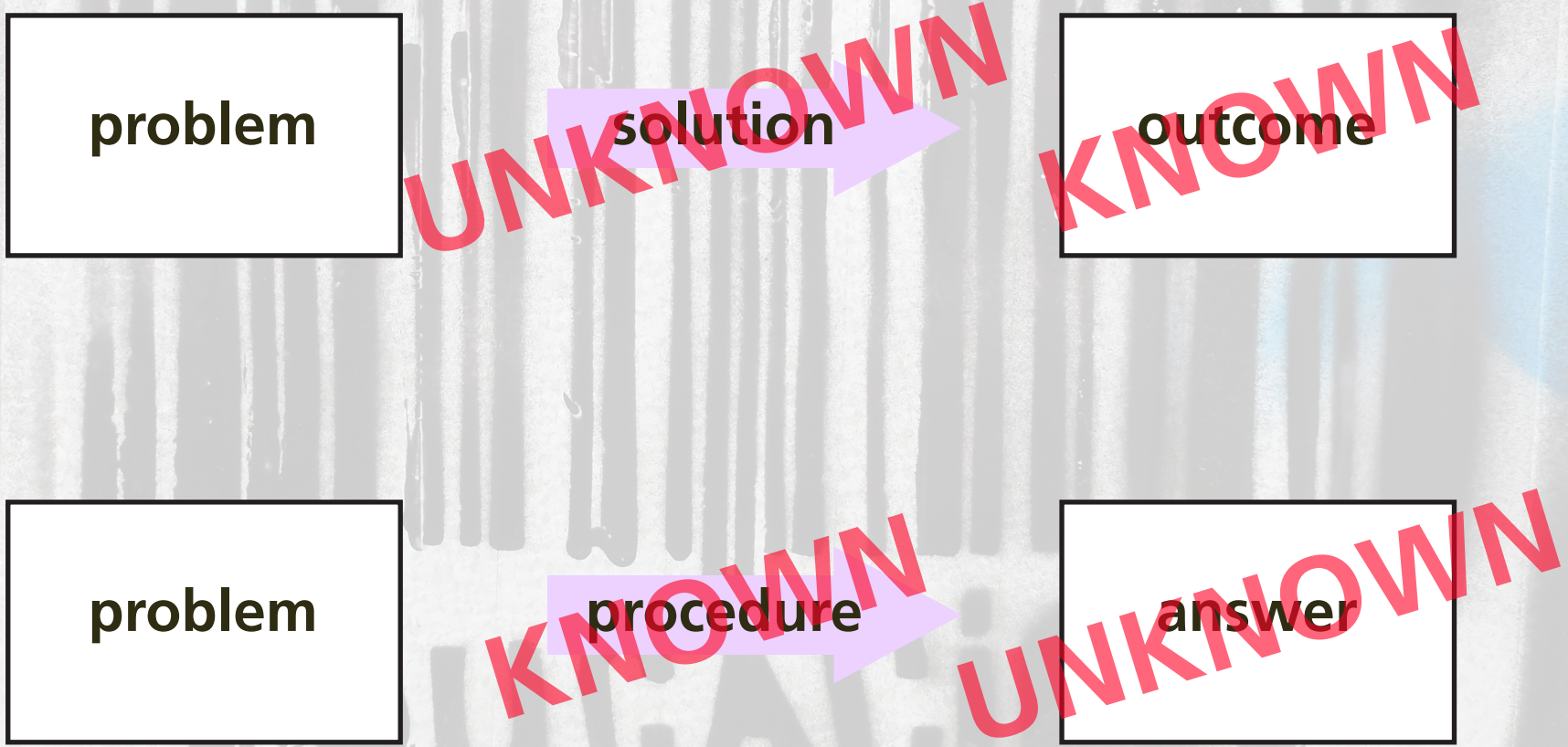
2 problems

1 purposes

2 problems

1 purposes

2 problems



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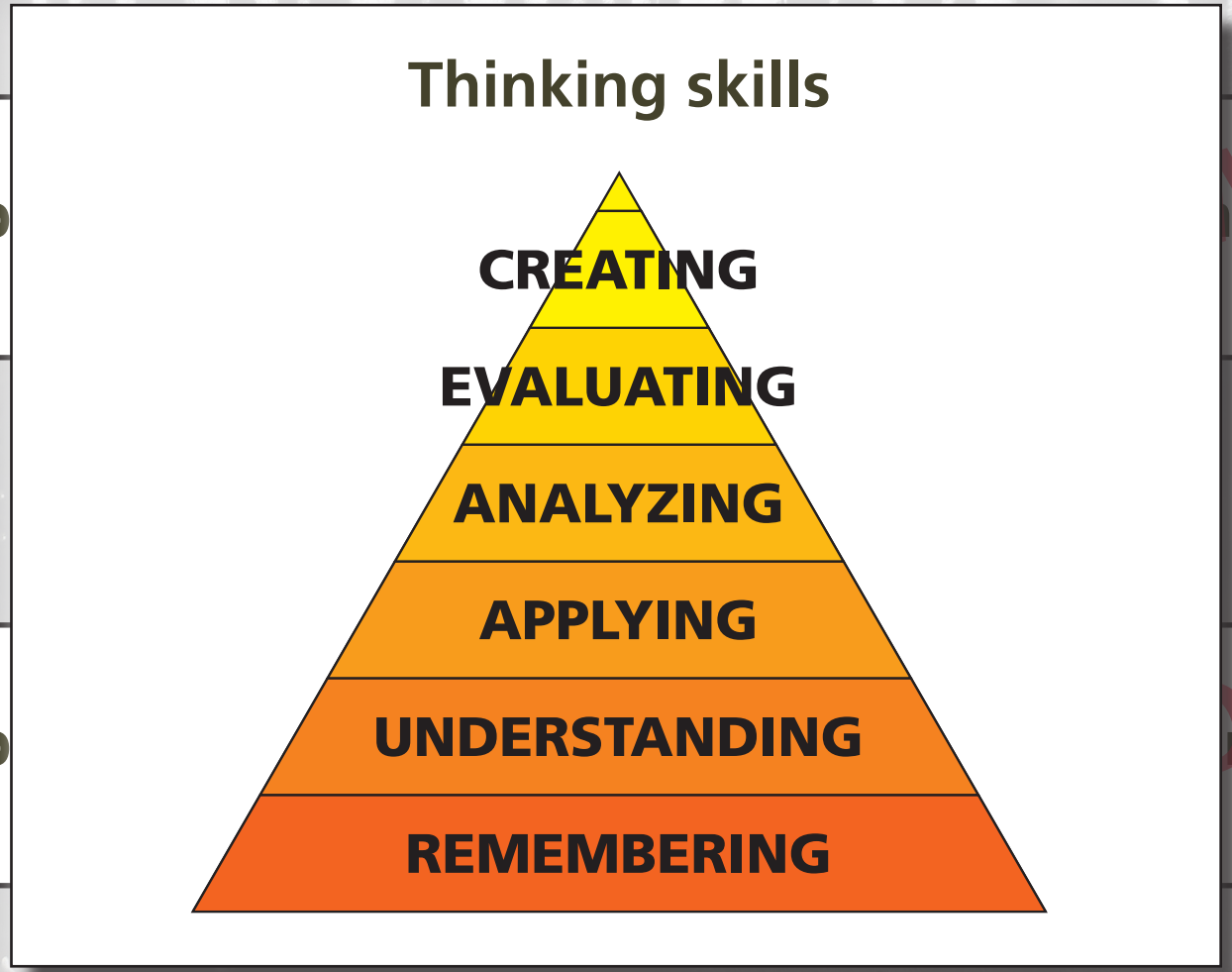
2 problems



1 purposes

2 problems

On a Saturday afternoon, you pull into a parking lot with un-metered spaces near a shopping area. You circle around, but there are no empty spots. You decide to wait at one end of the lot, where you can see (and command) about 20 spaces.

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How long do you have to wait before someone frees up a space?

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Requires:

Assumptions
Developing a model
Applying that model

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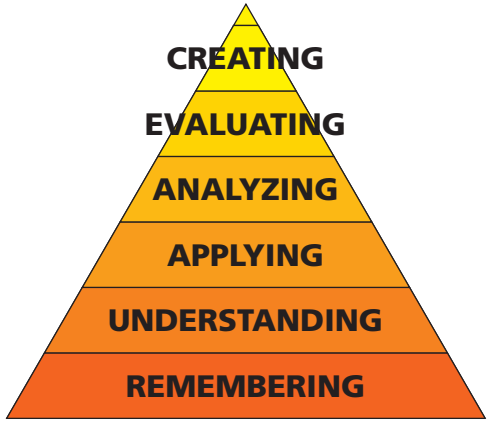

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On average people shop for 2 hours.

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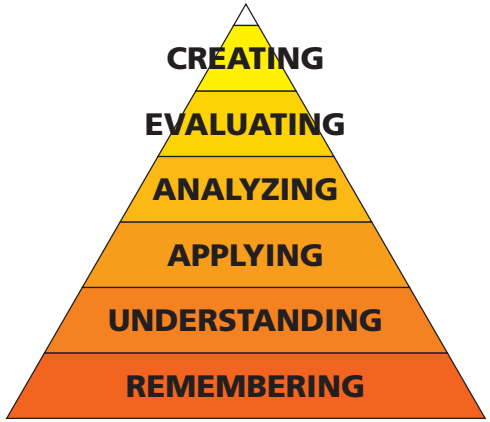

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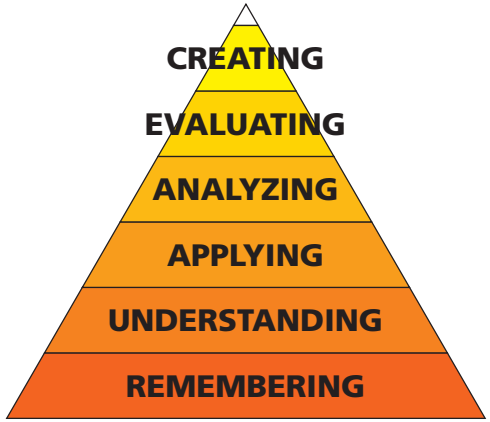
Assuming people leave at regularly-spaced intervals, how long do you have to wait before someone frees up a space?

Requires:

Assumptions
Developing a model
Applying that model



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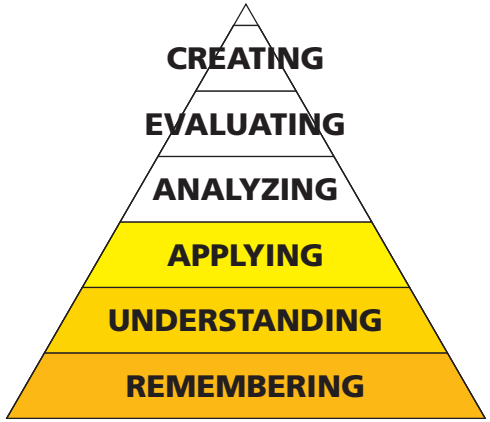

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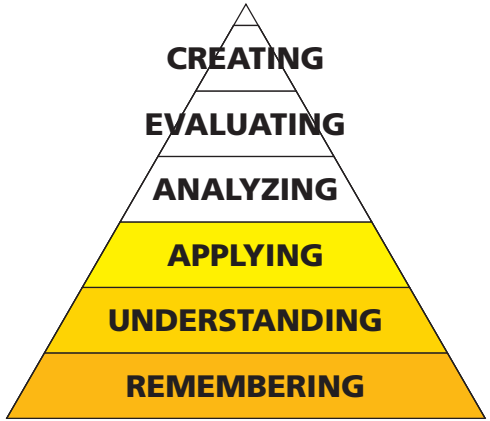

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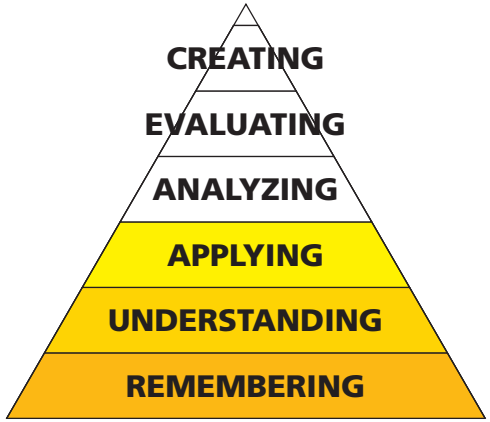
$$t_{wait} = \frac{T_{shop}}{N_{spaces}}$$



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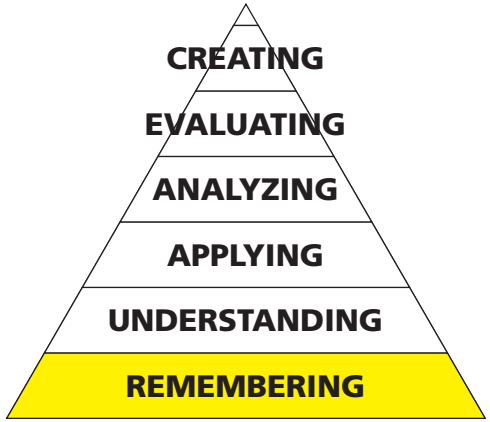
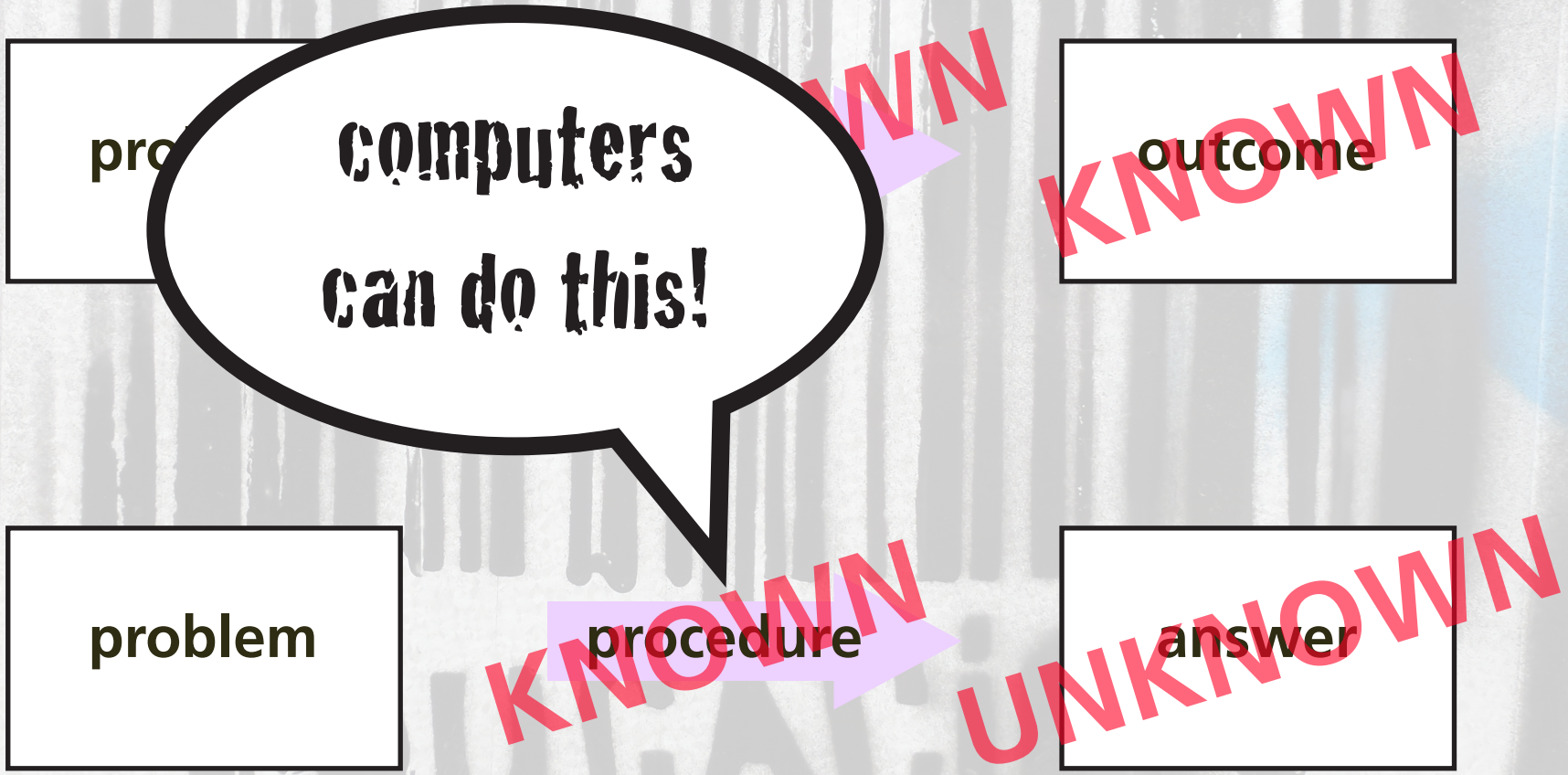




1 purposes

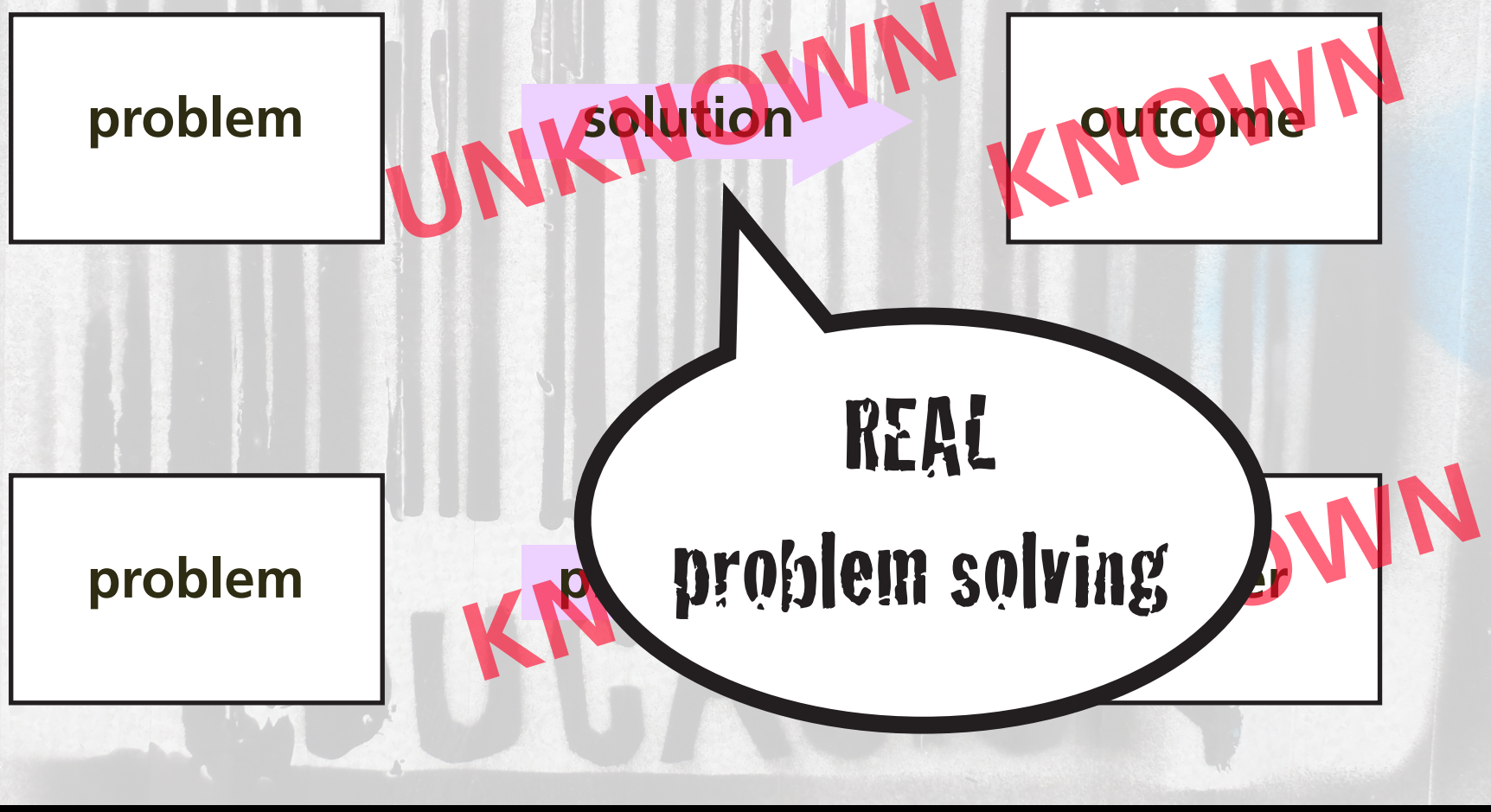
2 problems

1 purposes

2 problems

1 purposes

2 problems



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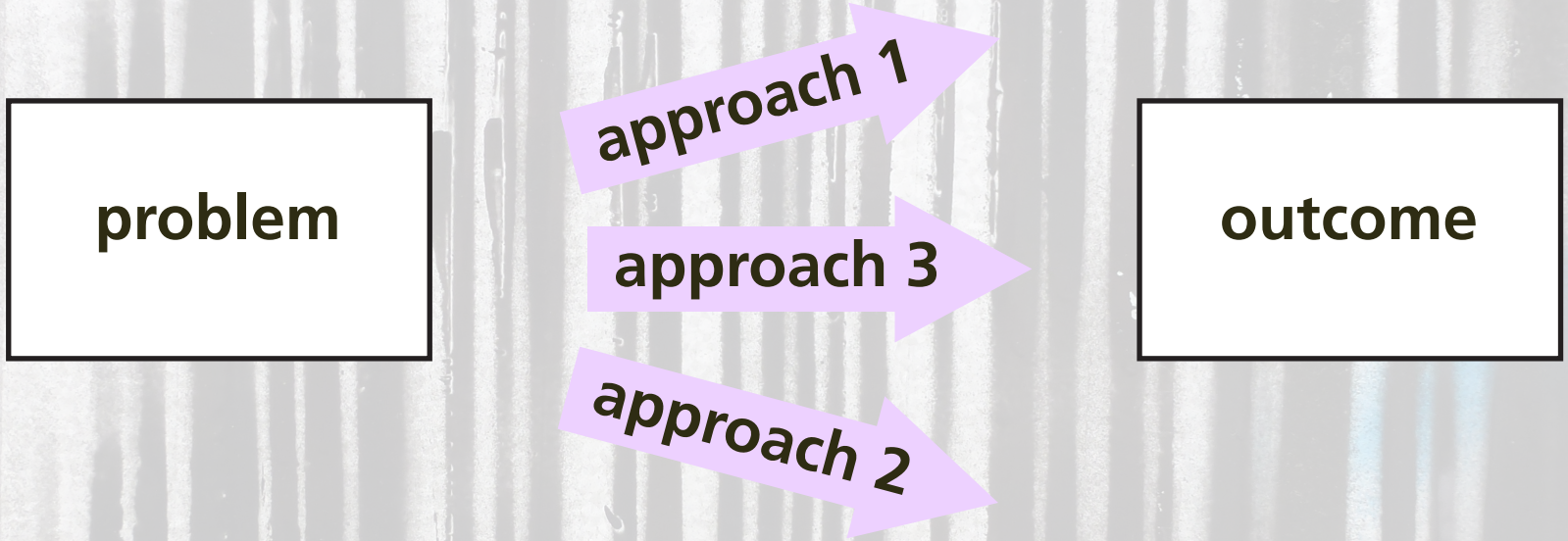
2 problems



grading incompatible with real problem solving

1 purposes

2 problems

1 purposes

2 problems

isolation

1 purposes

2 problems

Math. 302-02, Final Exam

(4) We will use spherical coordinates:

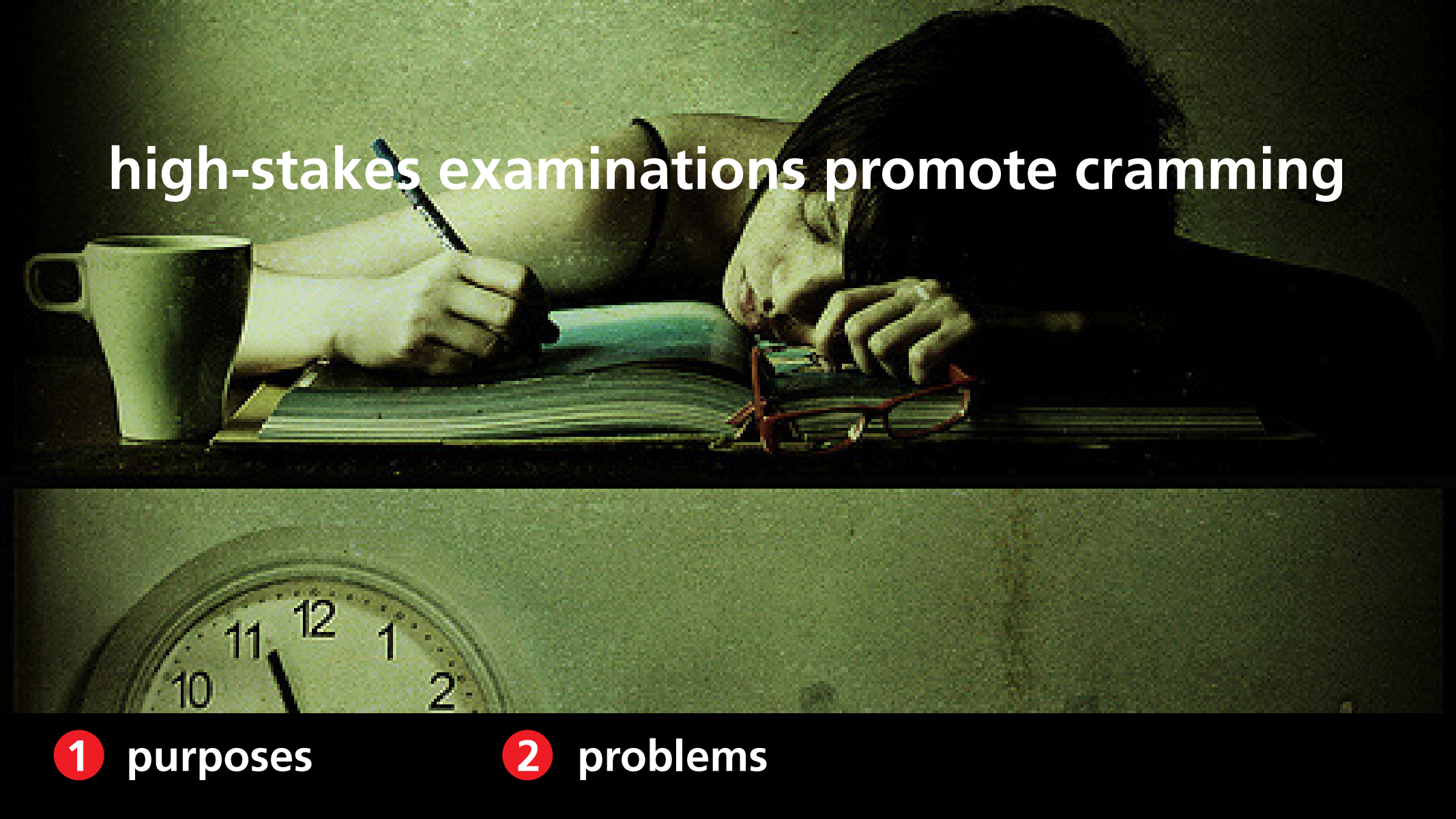
$0 \le \rho \le 4$, $0 \le \theta \le 2\pi$, $0 \le \varphi \le \pi$. The integral is thus:

$$\int_{\rho=0}^{4}\int_{\theta=0}^{2\pi}\int_{\varphi=0}^{\pi}(\rho\cos\varphi)(\rho^2\sin\varphi)\,d\varphi\,d\theta\,d\rho$$

$$= \left\{\int_{\rho=0}^{4}\rho^3\,d\rho\right\}\left\{\int_{\theta=0}^{2\pi}d\theta\right\}\left\{\frac{1}{2}\int_{\varphi=0}^{\pi}\sin(2\varphi)\,d\varphi\right\} = \boxed{0}$$

Final Exam

1 purposes 2 problems


high-stakes examinations promote cramming
1 purposes
2 problems

information stored in short-term memory

1. purposes
2. problems

1 purposes 2 problems

grades: measure of standing relative to others

1. purposes
2. problems

grades: measure of standing relative to others

feedback: reflection on what has been learnt

1 purposes 2 problems

assessment produces a conflict

1 purposes

2 problems

assessment produces a conflict

coach or judge?

1 purposes

2 problems

conflict resolved by:

objectivity (fairness, reliability)

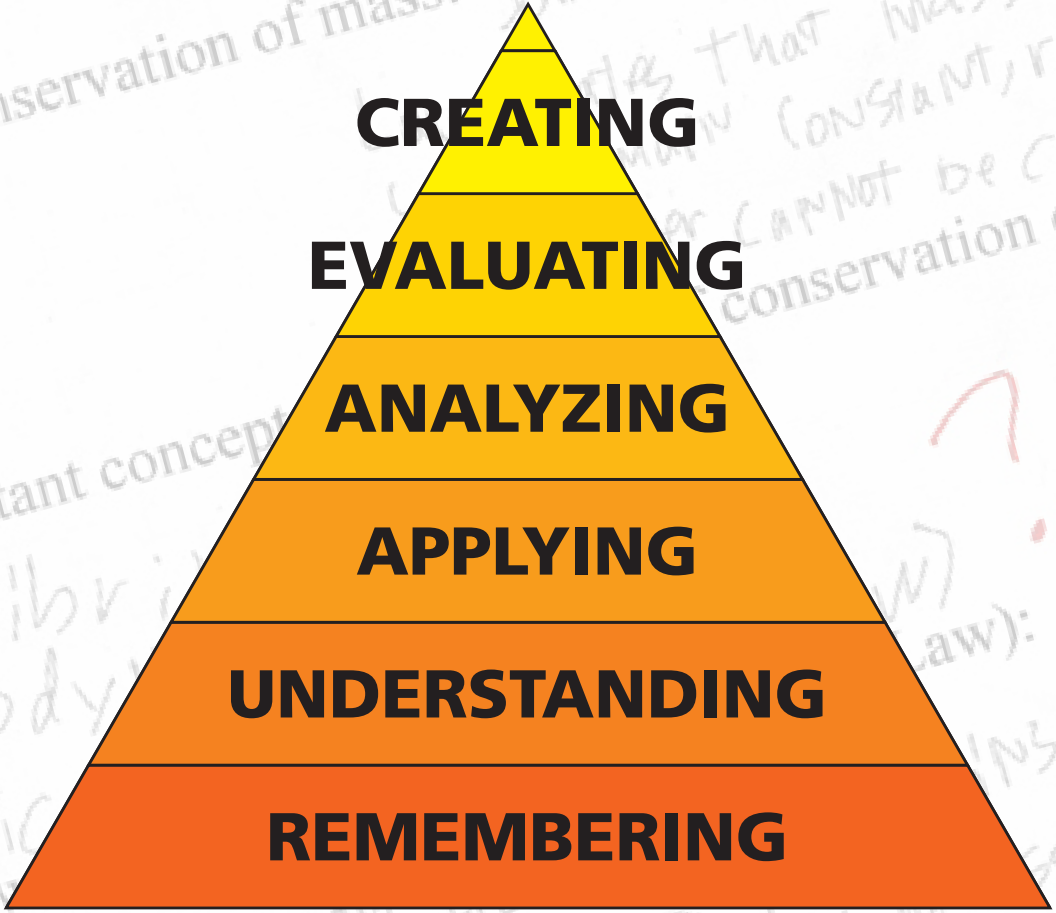
1 purposes

2 problems

… but …

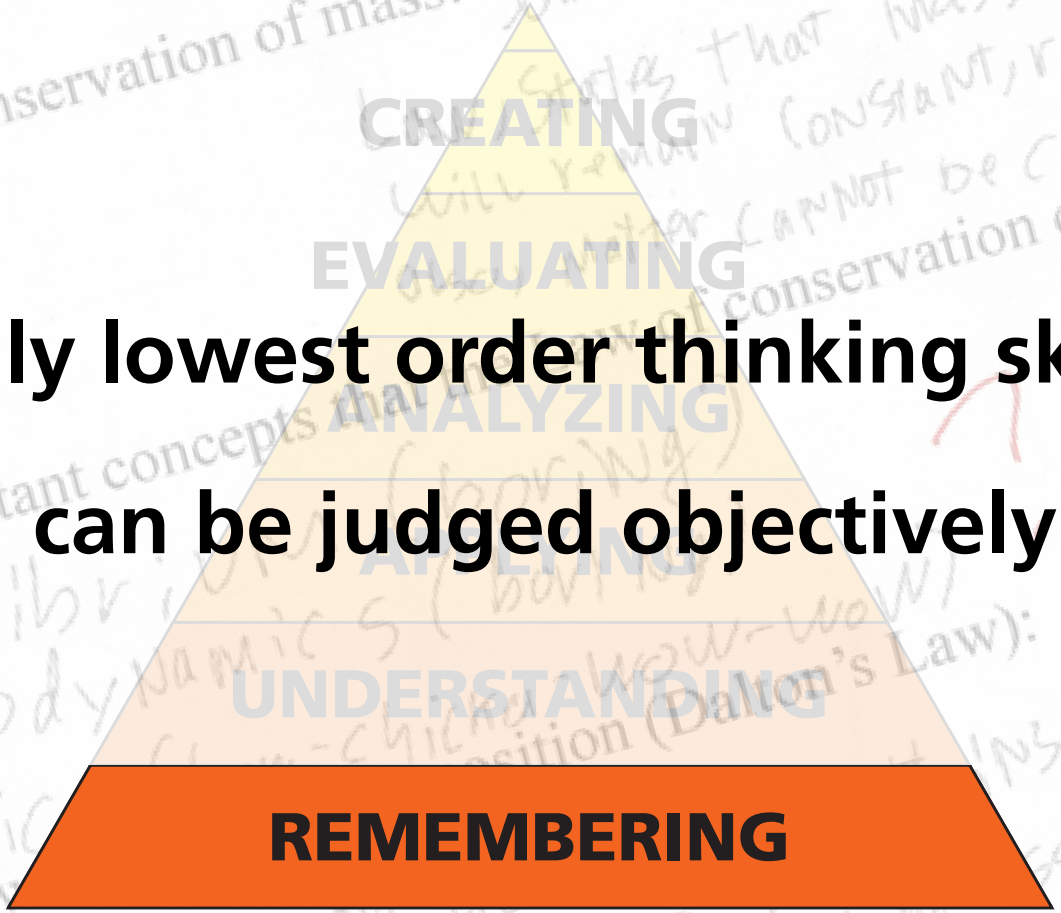
1 purposes

2 problems



1 purposes

2 problems



only lowest order thinking skills

can be judged objectively

1 purposes

2 problems

and then there is…

- grade inflation
- cheating

1 purposes

2 problems

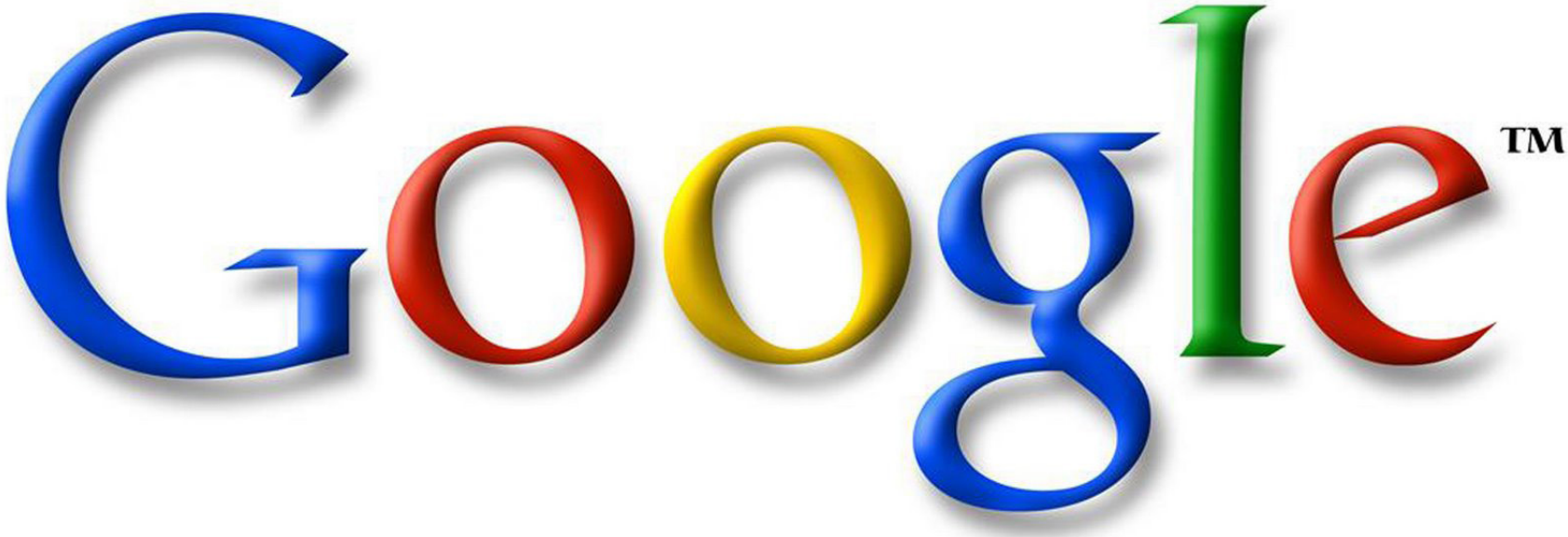
3 improvements

mimic real life

1 purposes 2 problems 3 improvements

open-book exam

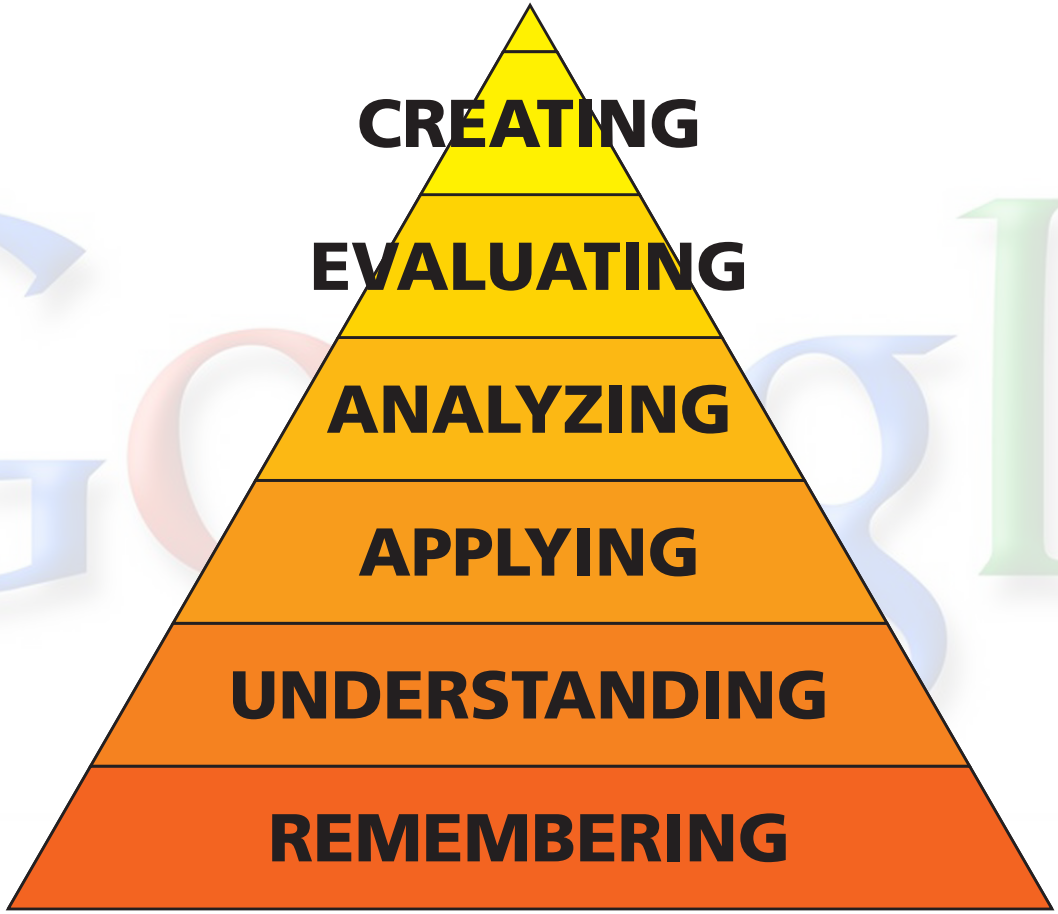
1. purposes
2. problems
3. improvements



1 purposes

2 problems

3 improvements



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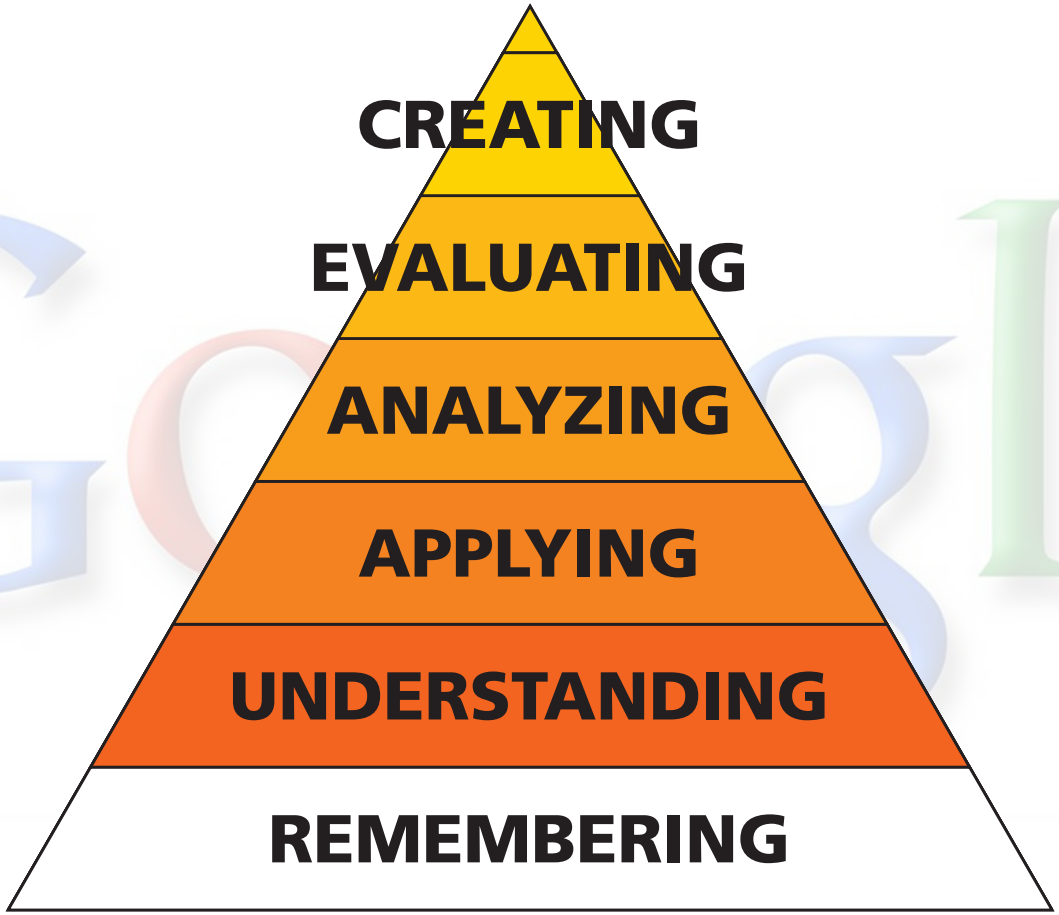

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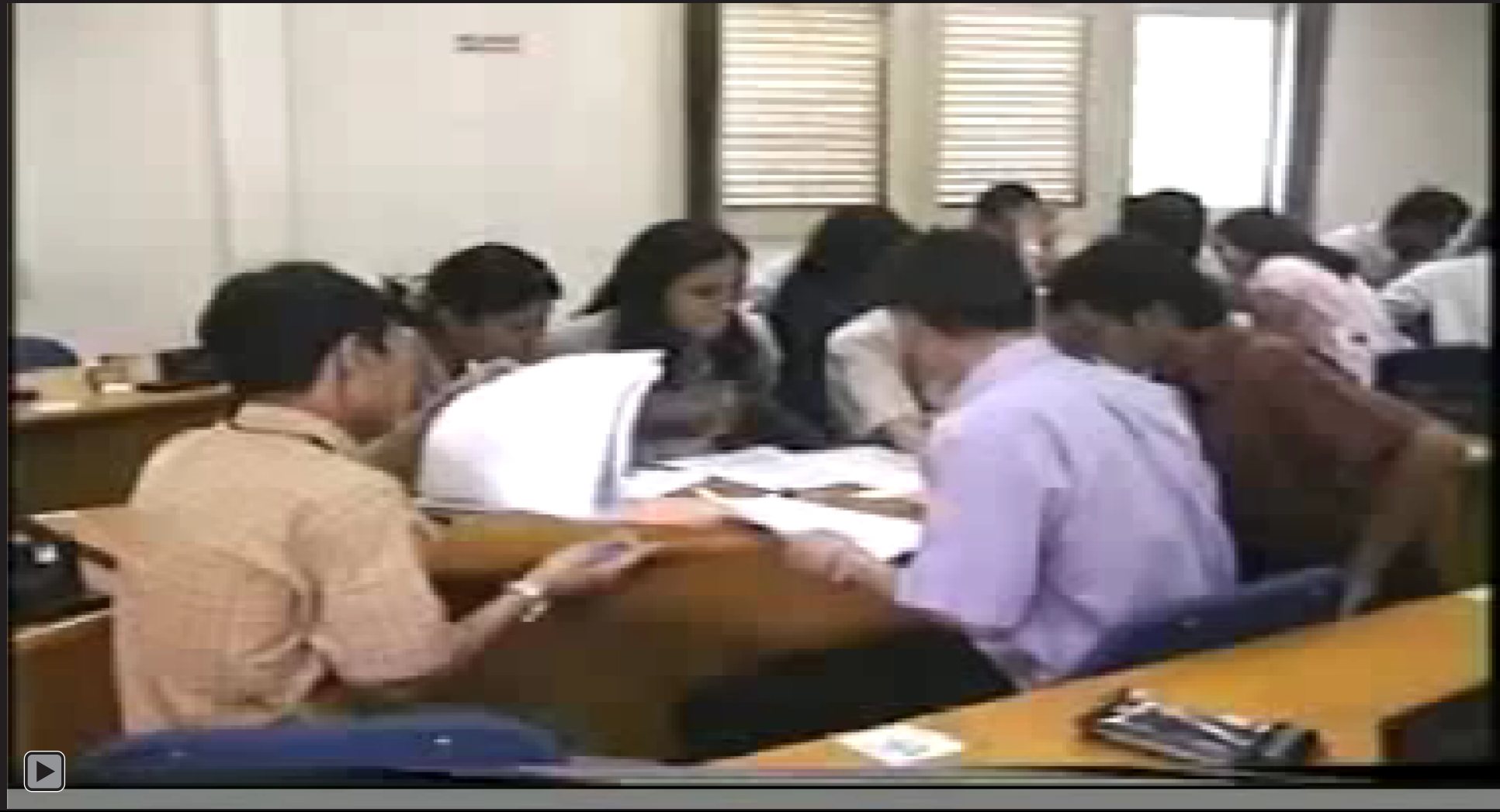

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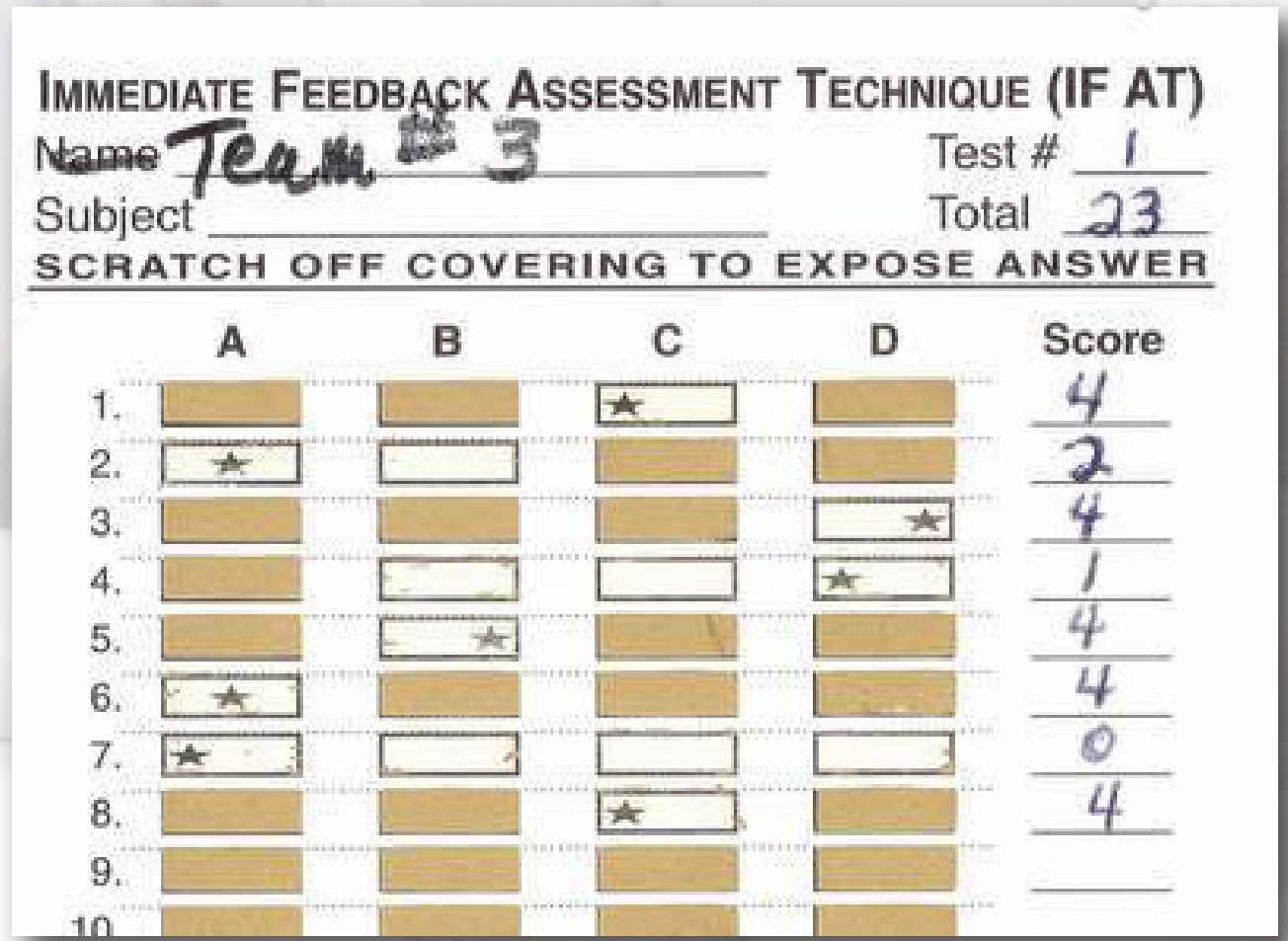
3 improvements



IMMEDIATE FEEDBACK ASSESSMENT TECHNIQUE (IF AT)

Name Team # 3 Test # 1

Subject _____ Total 23

SCRATCH OFF COVERING TO EXPOSE ANSWER

	A	B	C	D	Score
1.			★		4
2.	★				2
3.				★	4
4.				★	1
5.		★			4
6.	★				4
7.	★				0
8.			★		4
9.					
10.					

1 purposes 2 problems 3 improvements

1 purposes

2 problems

3 improvements

learning | catalytics

Brian Lukoff

Courses Questions Classrooms Tour Help

Session 389314

This is the individual round; work on these questions on your own.

◀ Jump to ▼ 1 2 3 4 5

expression question

What is the derivative of $f(x) = 3x^2 - 6x$?

Submit response

Enter an expression, e.g., `x^2` for x^2, `ln(y)-sin(x)` for $\ln y - \sin x$, `x/(y+1)` for $\frac{x}{y+1}$, `(1/2)x` for $\frac{1}{2}x$. Do not enter a complete equa

Current team: **Blue team** Change team Change seat Send a message to the instructor Join anothe

1 purposes 2 problems 3 improvements

This is the individual round;

expression question

What is the derivative of $f(x) = 3x^2 - 6x$?

Submit response

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1 purposes 2 problems 3 improvements

This is the individual round;

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6x - 6 | Submit response

Enter an expression, e.g., `x^2` for x^2, `ln(y)-sin(x)` for $\ln y - \sin$

1 purposes 2 problems 3 improvements

6x – 6 Brian Lukoff	**6x** Brent Jones	**6x – 6** Beth Sawyer	**6x^2 – 6** Kip Harmon

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1 purposes 2 problems 3 improvements

1 purposes

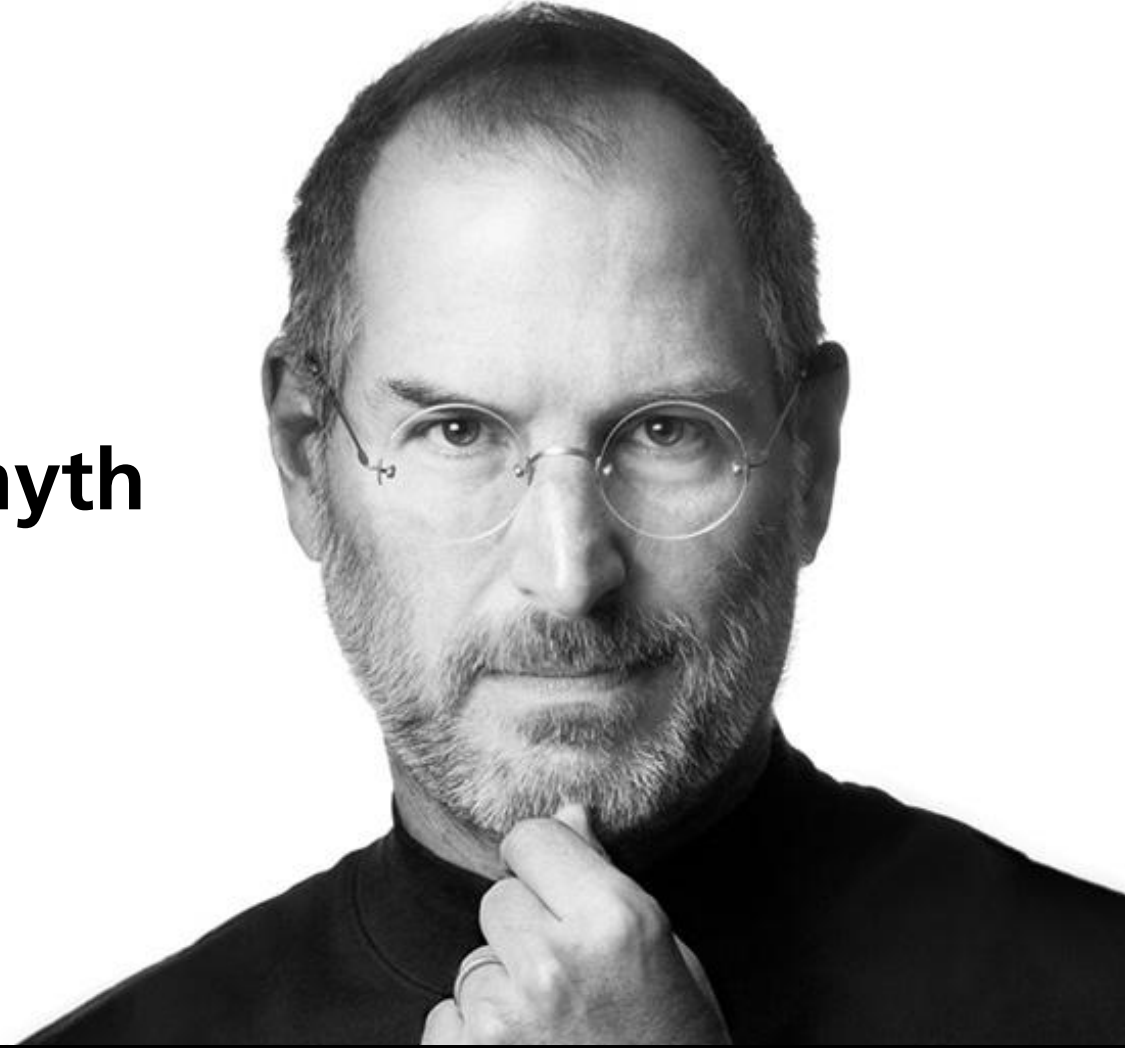
2 problems

3 improvements

focus on feedback, not ranking

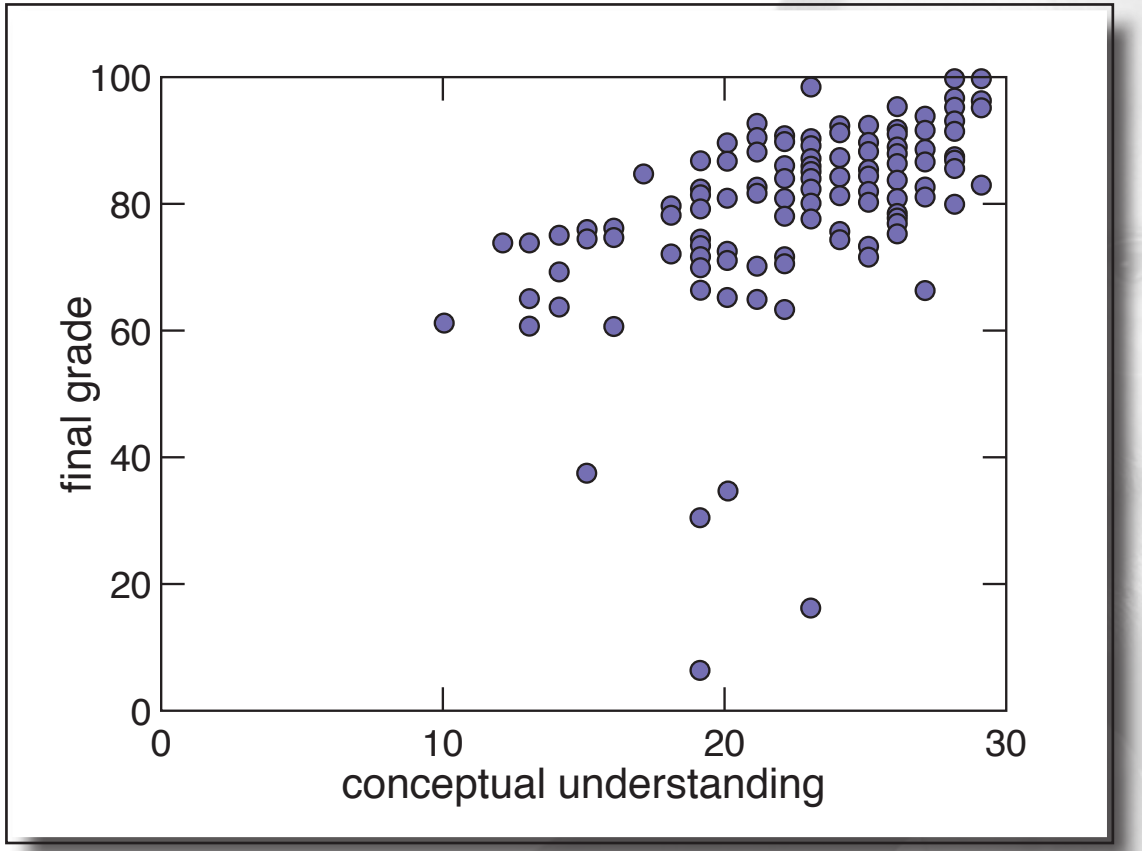
1 purposes 2 problems 3 improvements

objective ranking: a myth



1. purposes
2. problems
3. improvements

2 metrics, 2 results

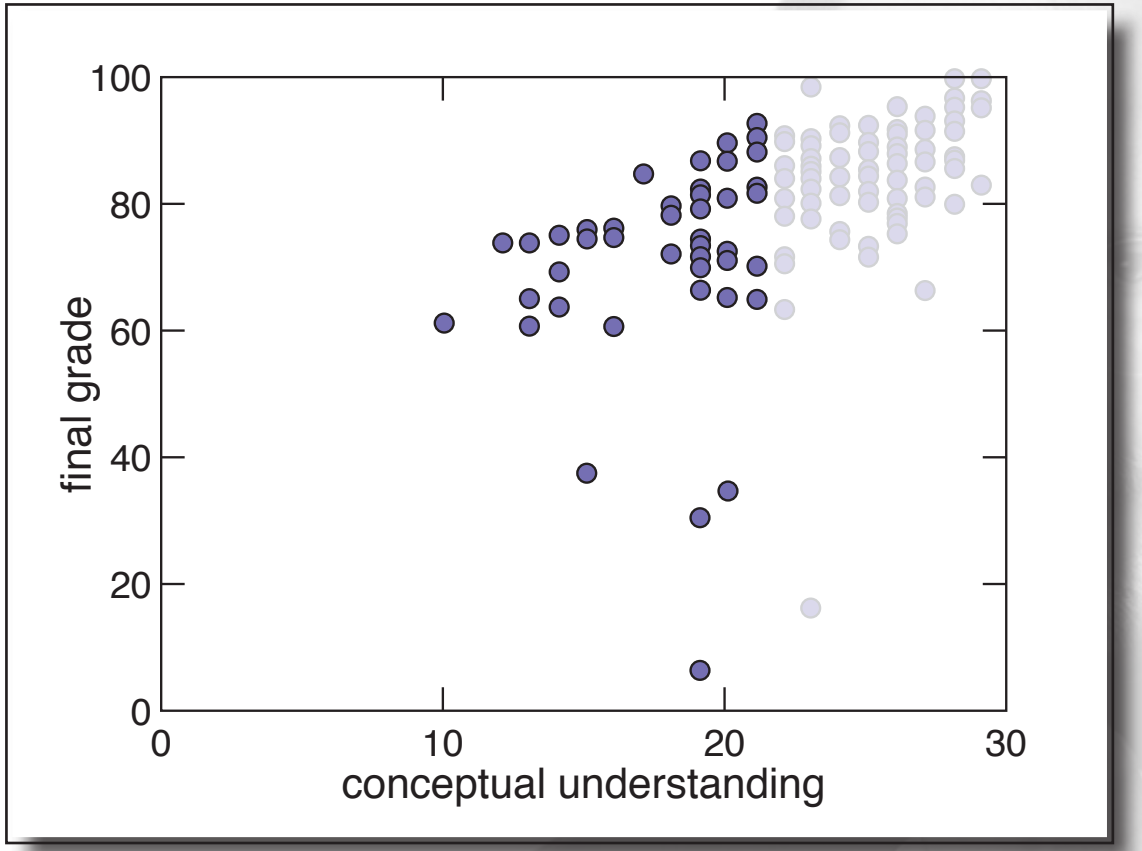


1 purposes

2 problems

3 improvements

Aristotelian thinkers

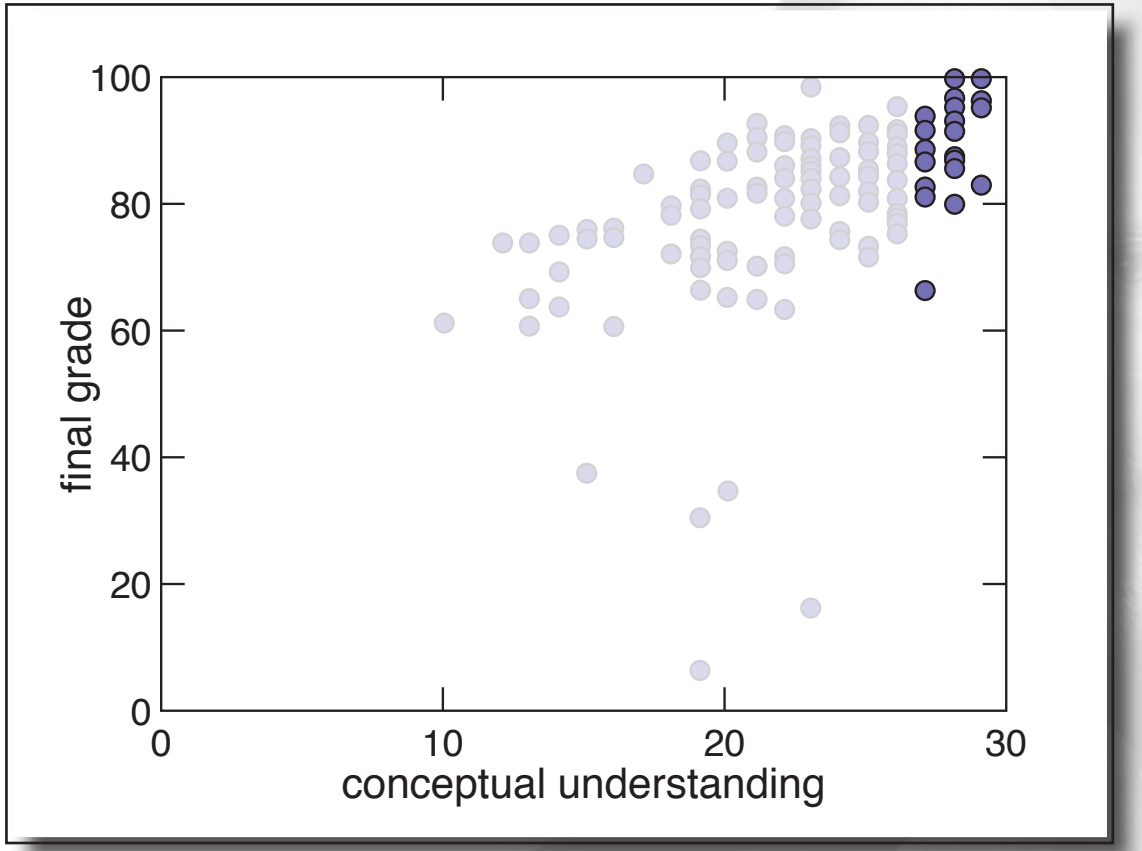


1 purposes

2 problems

3 improvements

top performers, broad grade distribution

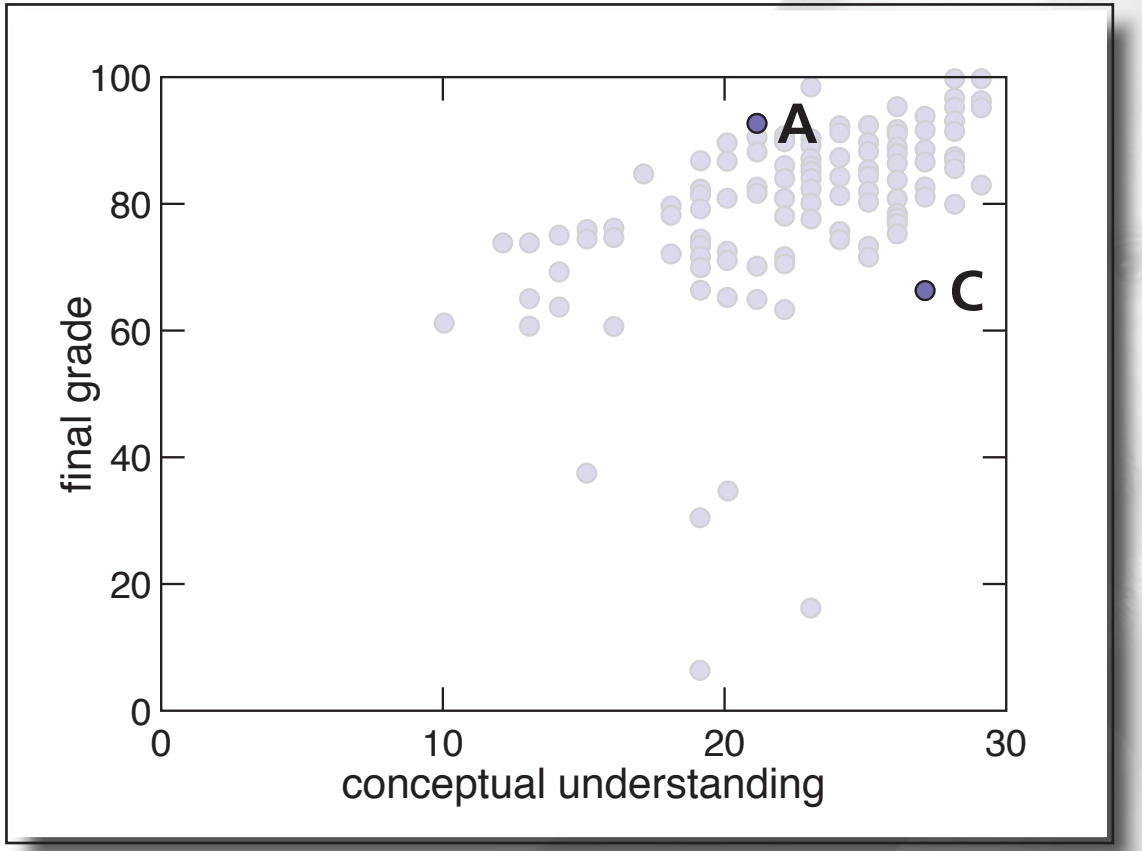


1 purposes

2 problems

3 improvements

objectivity or injustice?

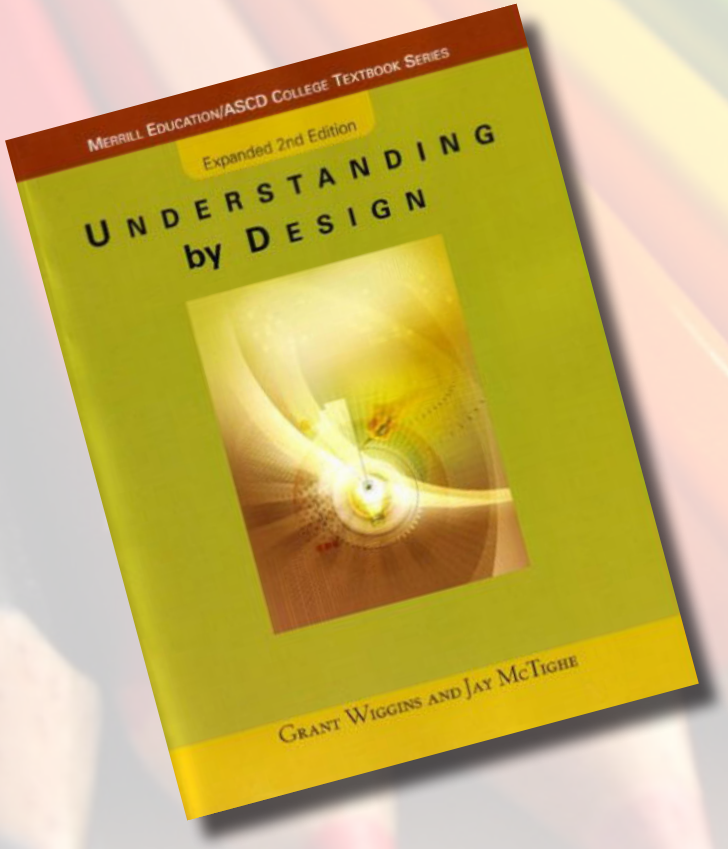


1 purposes

2 problems

3 improvements

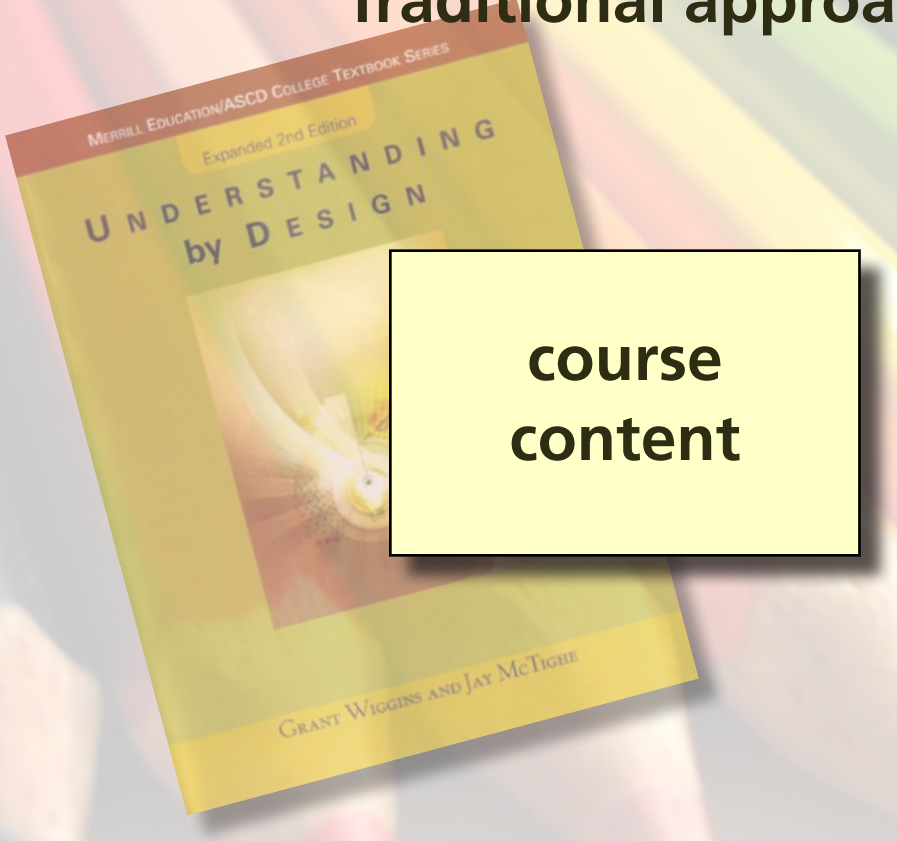
focus on skills, not content



Grant Wiggins and Jay McTighe, *Understanding by Design* (Prentice Hall, 2001)

1. purposes
2. problems
3. improvements

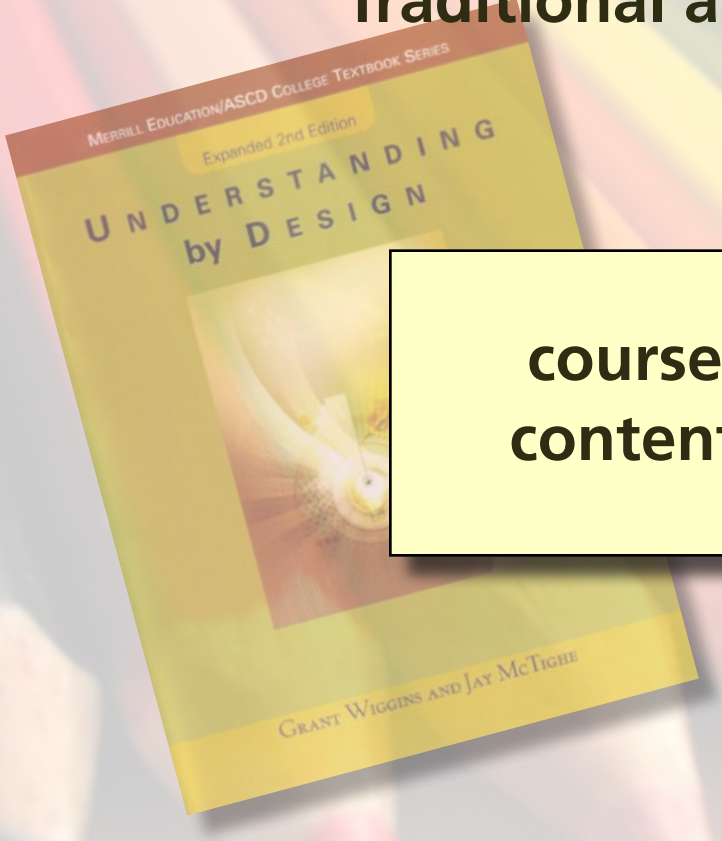
Traditional approach to course planning



course content

1. purposes
2. problems
3. improvements

Traditional approach to course planning

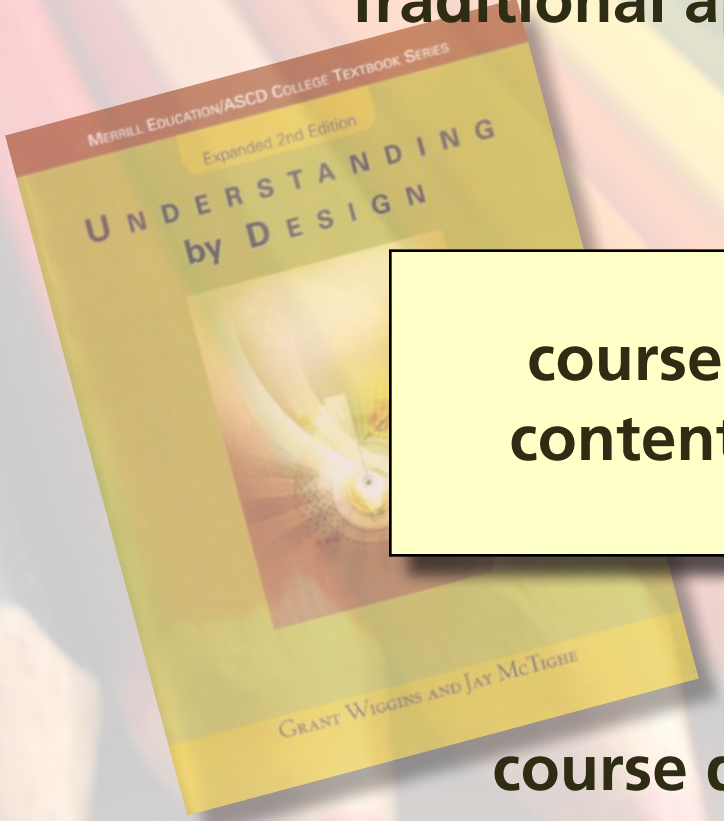


course content

assessment

1. purposes
2. problems
3. improvements

Traditional approach to course planning

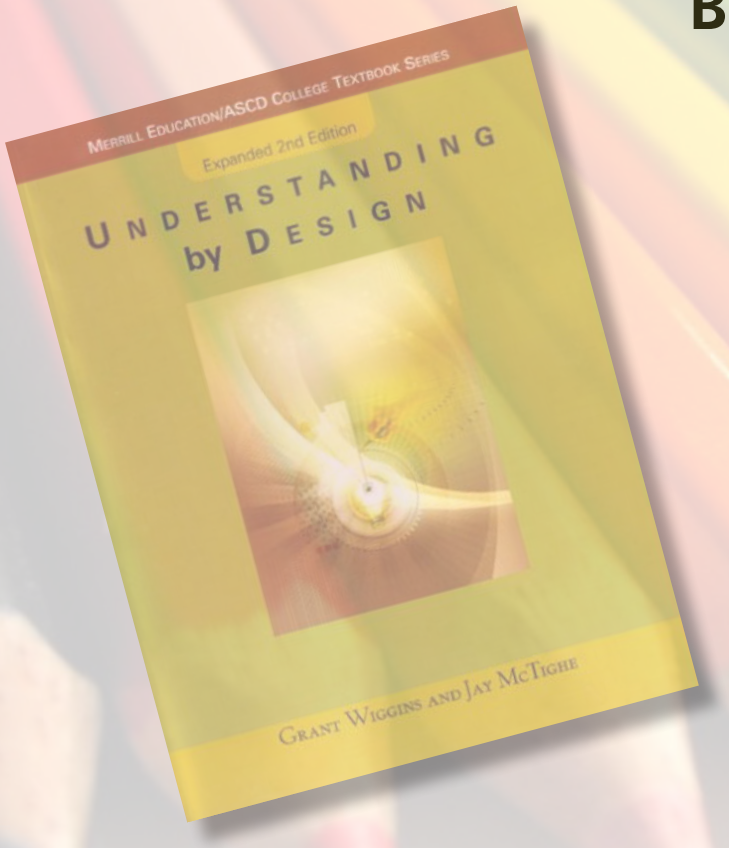


course content → assessment

course determined by content

1. purposes
2. problems
3. improvements

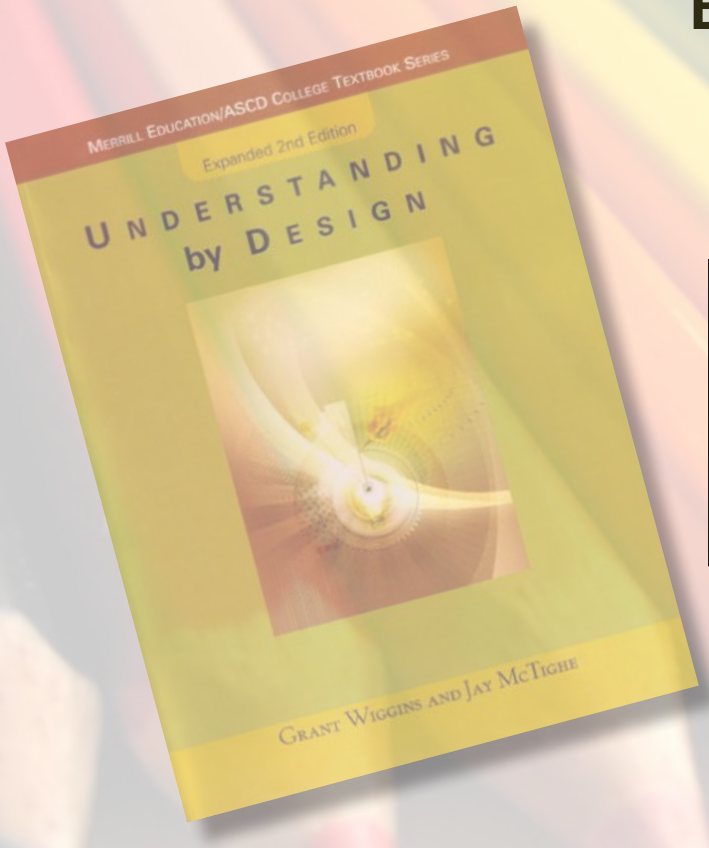
Backward design



desired outcomes

1. purposes
2. problems
3. improvements

Backward design

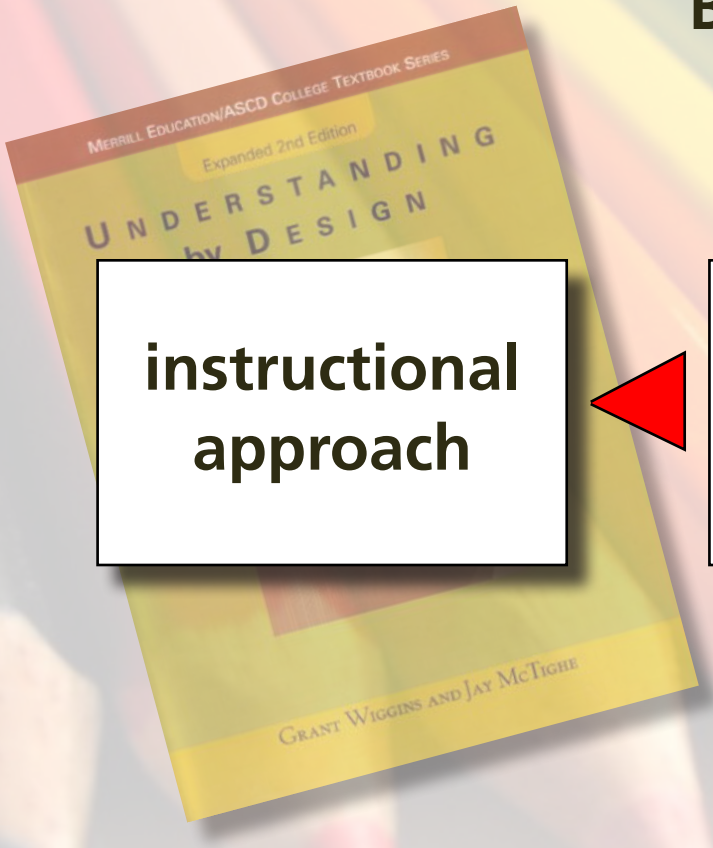


desired outcomes

acceptable evidence

1. purposes
2. problems
3. improvements

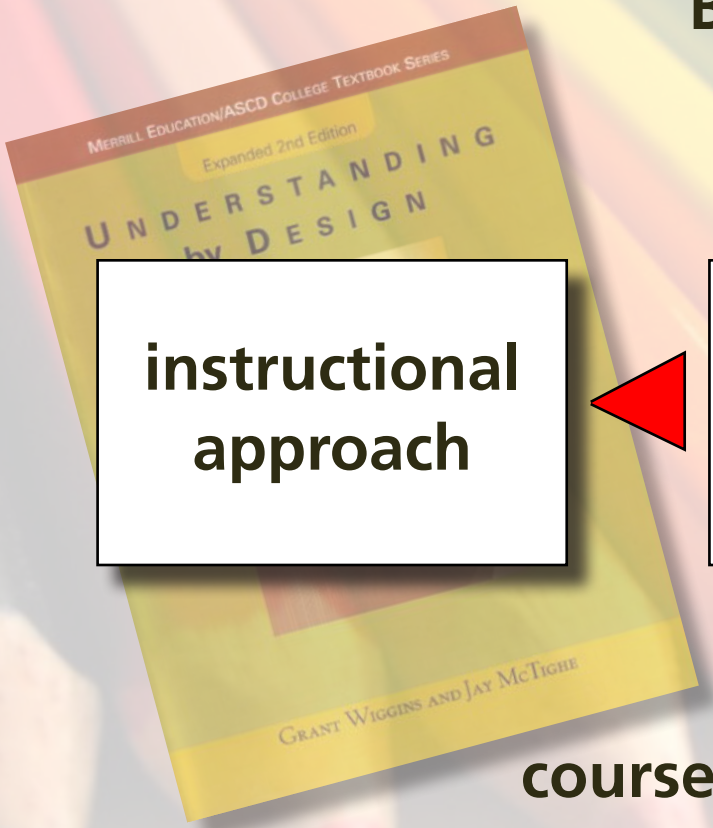
Backward design



instructional approach ◀ acceptable evidence ◀ desired outcomes

1. purposes
2. problems
3. improvements

Backward design

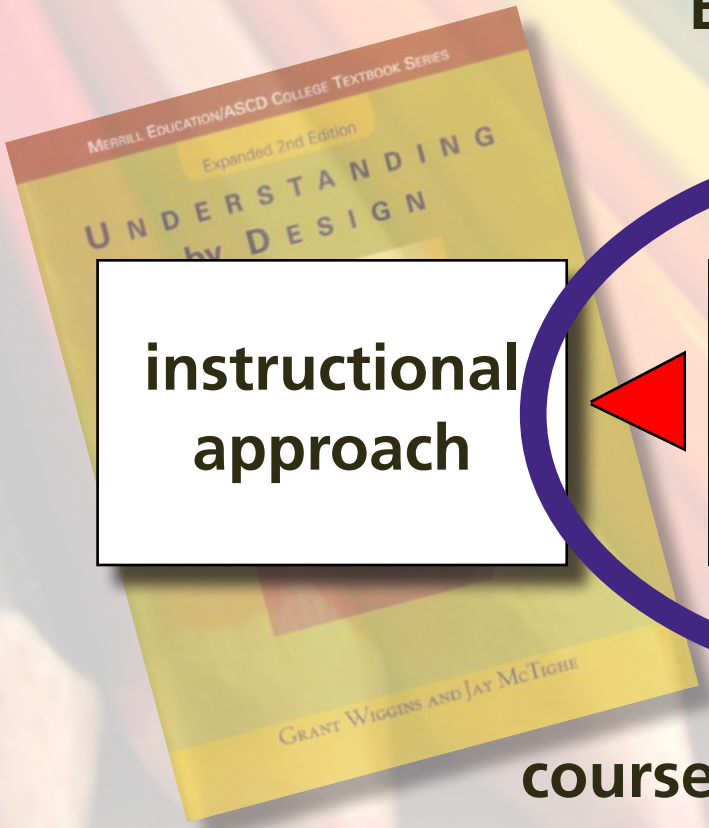


instructional approach ← **acceptable evidence** ← **desired outcomes**

course defined by outcomes

1. purposes
2. problems
3. improvements

Backward design



instructional approach ← **acceptable evidence** ← **desired outcomes**

course defined by outcomes

1. purposes
2. problems
3. improvements

resolve coach/judge conflict

use external evaluators

1. purposes
2. problems
3. improvements

peer- and self-assessment

1. purposes
2. problems
3. improvements

Calibrated Peer Review

cpr.molsci.ucla.edu

1 purposes 2 problems 3 improvements

rethink
assessment

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