

Teaching the Teachers of Psychopharmacology:

**Where should the focus be, on the content,
on the presenter or on the participant?**

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Disclosure

Grant/Research: Acadia, Alkermes, Allergan/AbbVie, Arbor, AssureX, AstraZeneca, Avanir, Axovant, Biogen, Braeburn, BristolMyer Squibb, Celgene, CeNeRex, Cephalon, Dey, Eisai, Forest, GenOmind, Glaxo Smith Kline, Harmony Biosciences, Indivior, Intra-Cellular, Ironshore, Janssen, JayMac, Jazz, Lilly, Lundbeck, Merck, Neurocrine, Neuronetics, Novartis, Otsuka, Pear, Pfizer, Reviva, Roche, Sage, Servier, Shire, Sprout, Sunovion, Supernus, Takeda, Teva, Tonix, Torrent, Vanda

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Speakers Bureau: Acadia, Genentech, Janssen, Lundbeck, Merck, Otsuka, Servier, Sunovion, Takeda, Teva

Board Member: Genomind, RCT Logic

Options Holdings: Delix, Genomind, Lipidio



Learning Objectives

- After a brief walk down memory lane, propose some ideas about how to teach the teachers of psychopharmacology
- Explore whether the emphasis of teaching should be on the content, the presenter or the participant
- Discuss tactics to enhance the potential for favorable behavioral change in psychopharm learners
- Provide some tips for preparing presentations by the teacher for the learner

A brief walk down memory lane

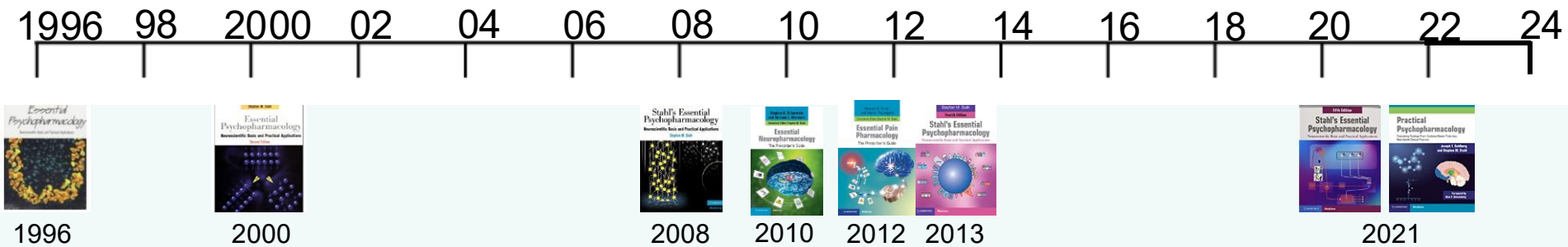








30 Years of Essential Psychopharmacology



Essential Psychopharmacology Textbooks

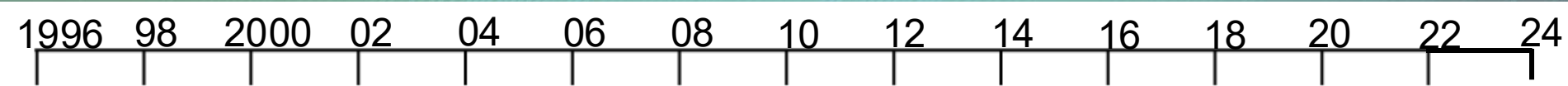
Prescriber's Guides



Illustrated Series



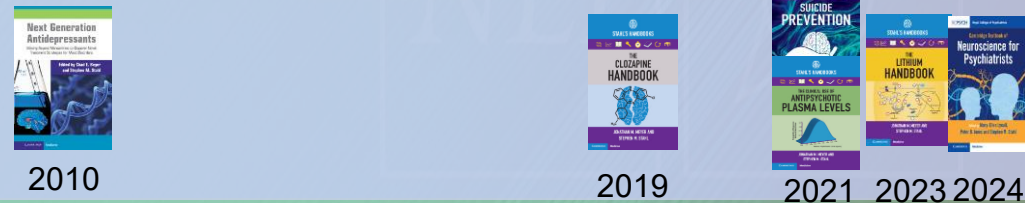
30 Years of Essential Psychopharmacology



Education Series



Handbooks



Serious Mental Illness Series



30 Years of Essential Psychopharmacology

1996 98 2000 02 04 06 08 10 12 14 16 18 20 22 24

Case Studies



2011



2016



2021



2023

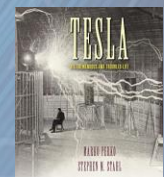


2024

Novels and Biographies



2015



2022

NEI

Neuroscience Education Institute

Founded 1996

Acquired by HMP 2023

- **NEI CONGRESS:** A live program that comes from books





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Best Practices in
**MEDICAL
TEACHING**



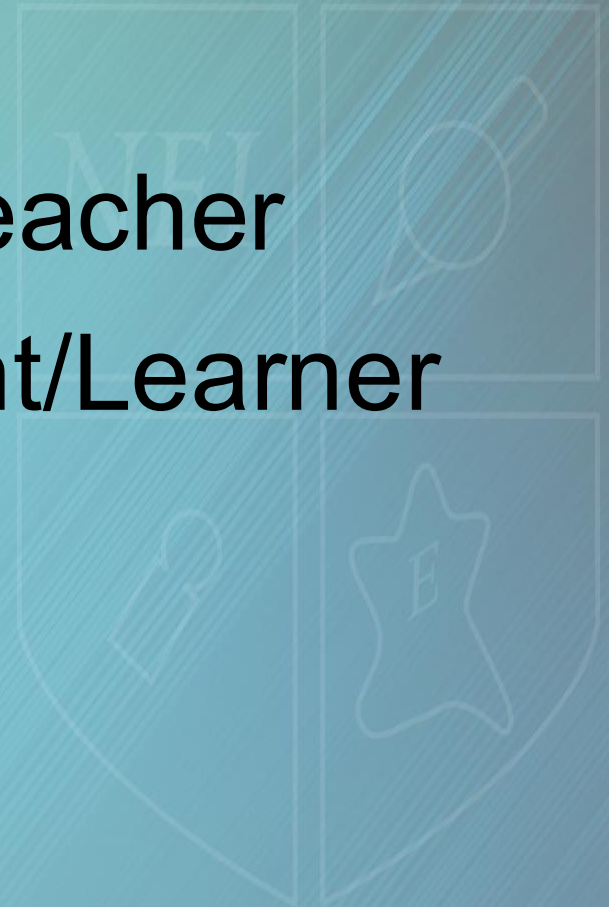
CAMBRIDGE

Medicine



Three Components of a Learning Environment

- Content
- Speaker/Expert/Teacher
- Participant/Student/Learner



When teaching is content focussed

- Most medical teaching is content focused
- Content is king
- The more content, the better, speak fast, lots of information on each single slide
- It's the responsibility of the participant to absorb the information presented
- There is so much content evolving that the participant must learn how to keep abreast of new developments as fast as they evolve and as fast as it can be presented
- The goal is to present the maximum amount of information in the allotted time

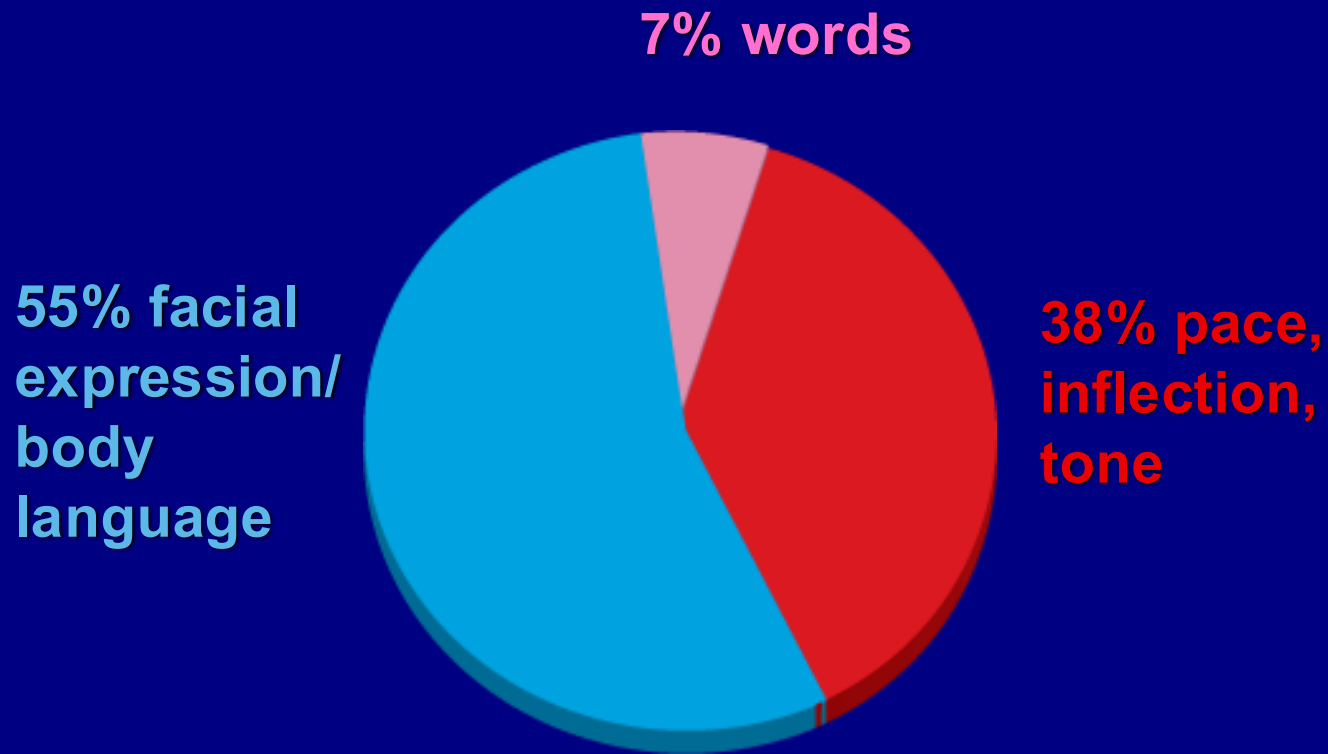
When teaching is speaker focussed

- Presentation should be at a time and place of interest and convenience to the speaker whenever possible
- Presentation should allow speakers to present what is most interesting and important to them
- Materials should be in speakers' main area of expertise and on a topic often presented by the speaker and thus easy for the speaker to present
- The goal is for the speaker to be perceived as smart, expert, and knowledgeable

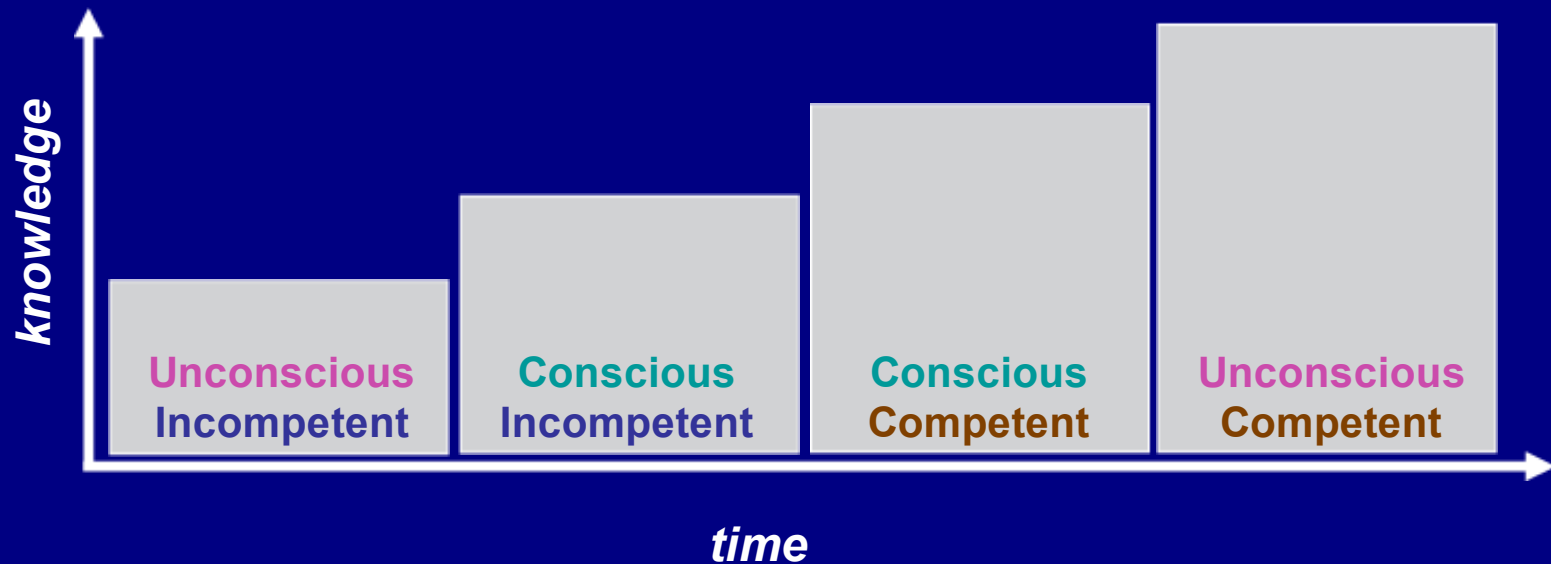
When teaching is participant focussed

- Content is structured to be readily learned and retention is maximized
- Less is more
- Its not how much you present, but how you present it
- Retain 10% of 100 points (10 units) or 50% of 50 points (25 units)
- The goal is to have participants become so confident of the materials learned that they will change their behavior

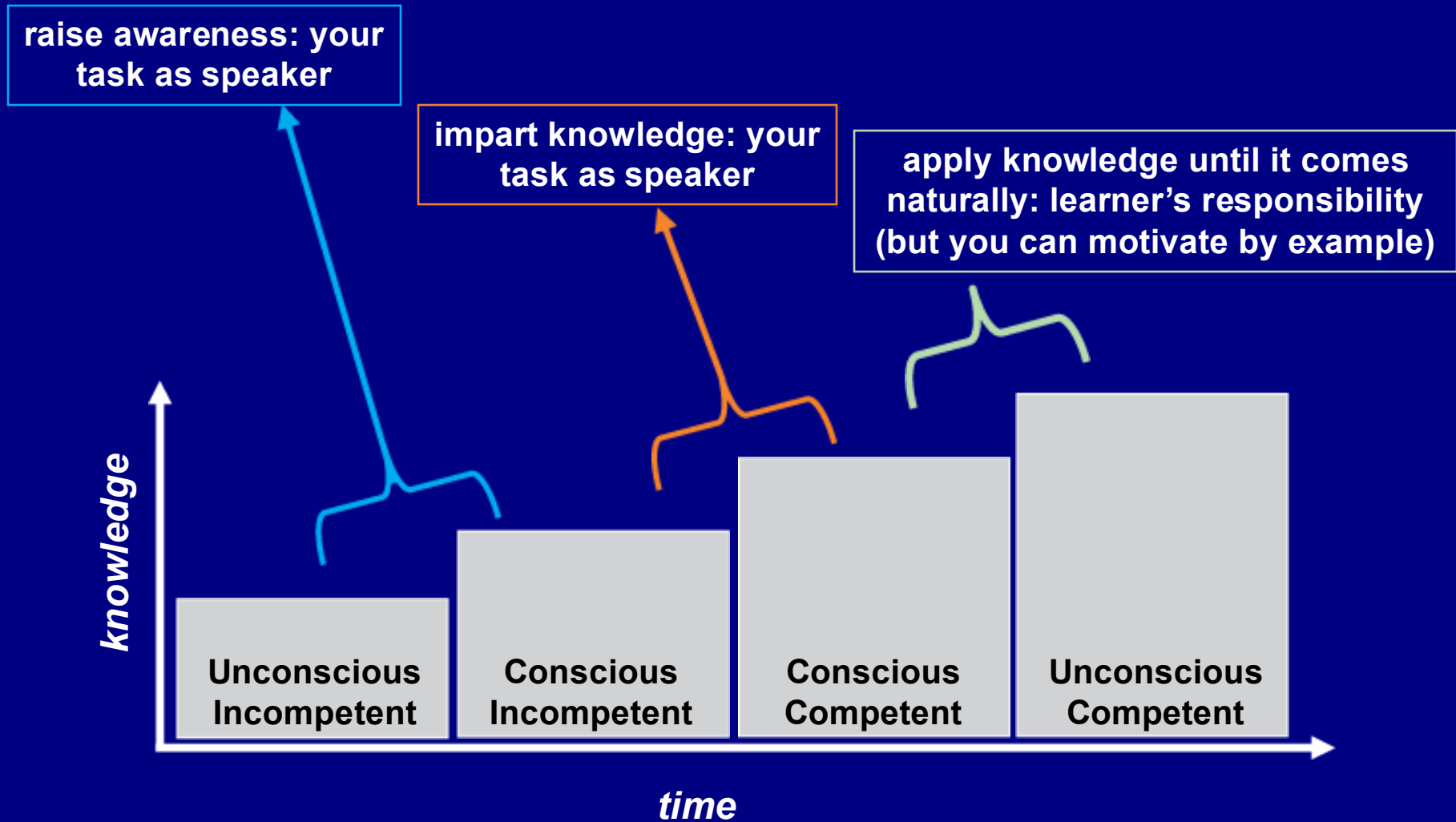
Quantified Impact of Verbal and Nonverbal Behaviors



The Four Stages of Learning



Your Role as Instructor in the Four Stages of Learning



The Ladder of Learning

teach others or immediate
use of learning

90%

practice by doing

75%

discussion group

50%

demonstration

30%

audio visual

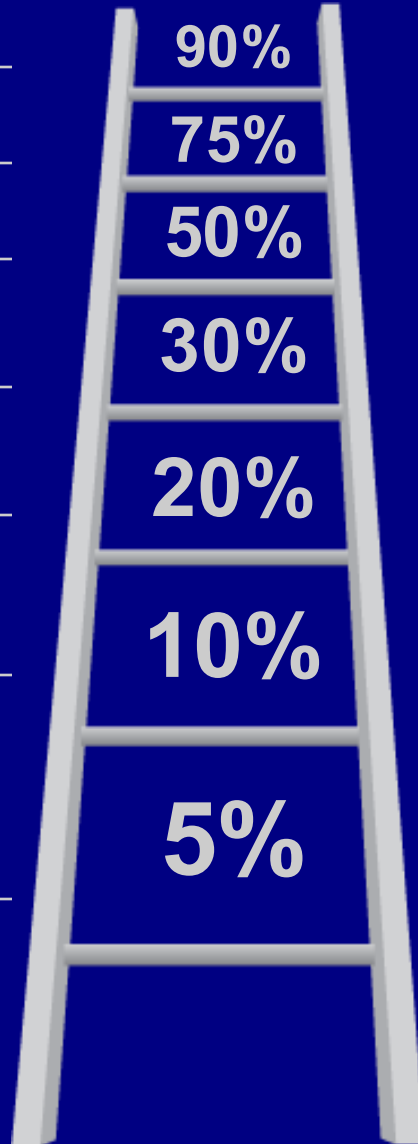
20%

reading

10%

lecture

5%



Stahl's Laws of Adult Learning

Law 1.

Adults don't want answers to questions they haven't asked

Law 2.

Adults don't argue with their own data.

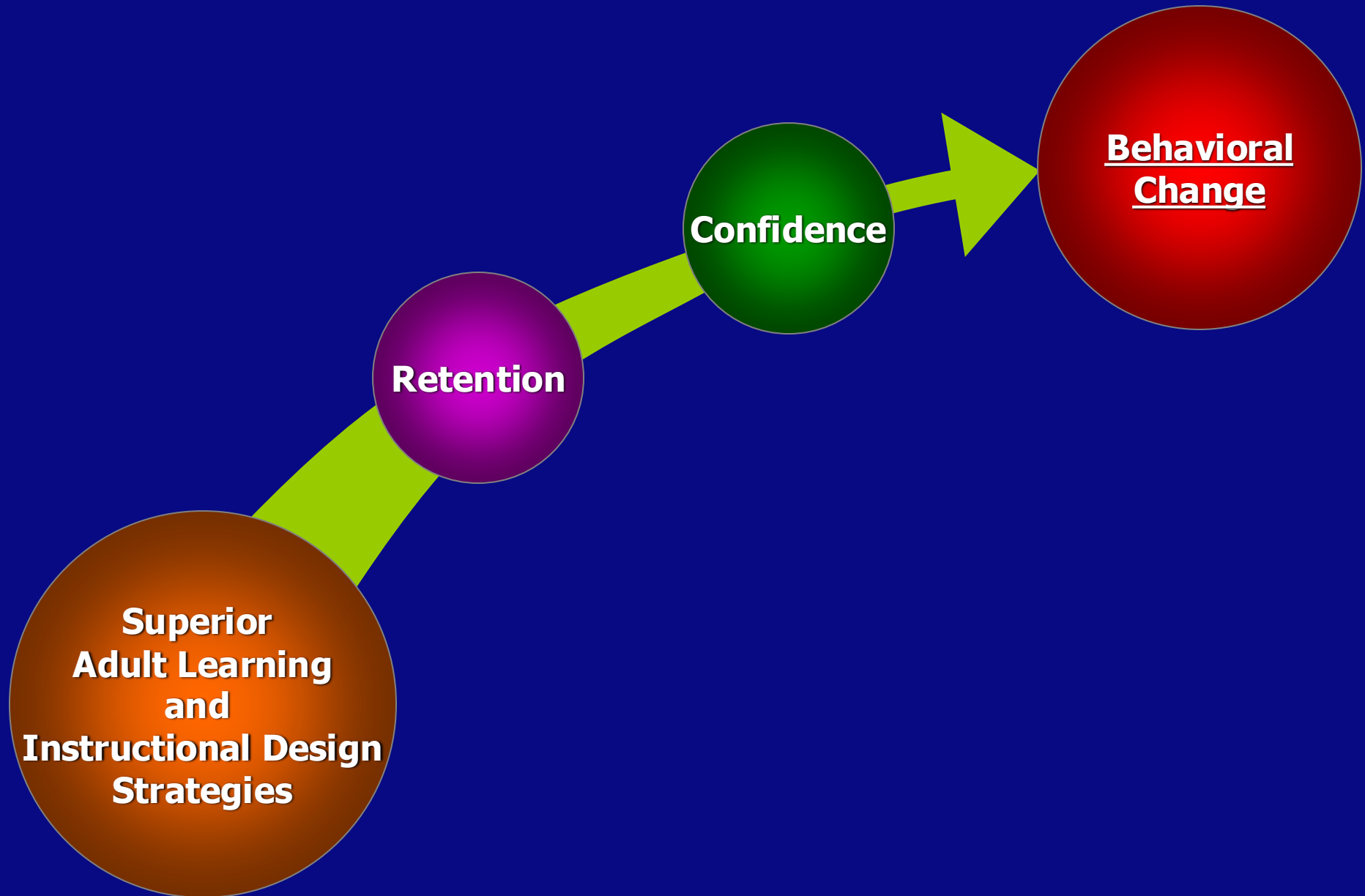
Law 3.

Learning has not taken place until behavior has changed.

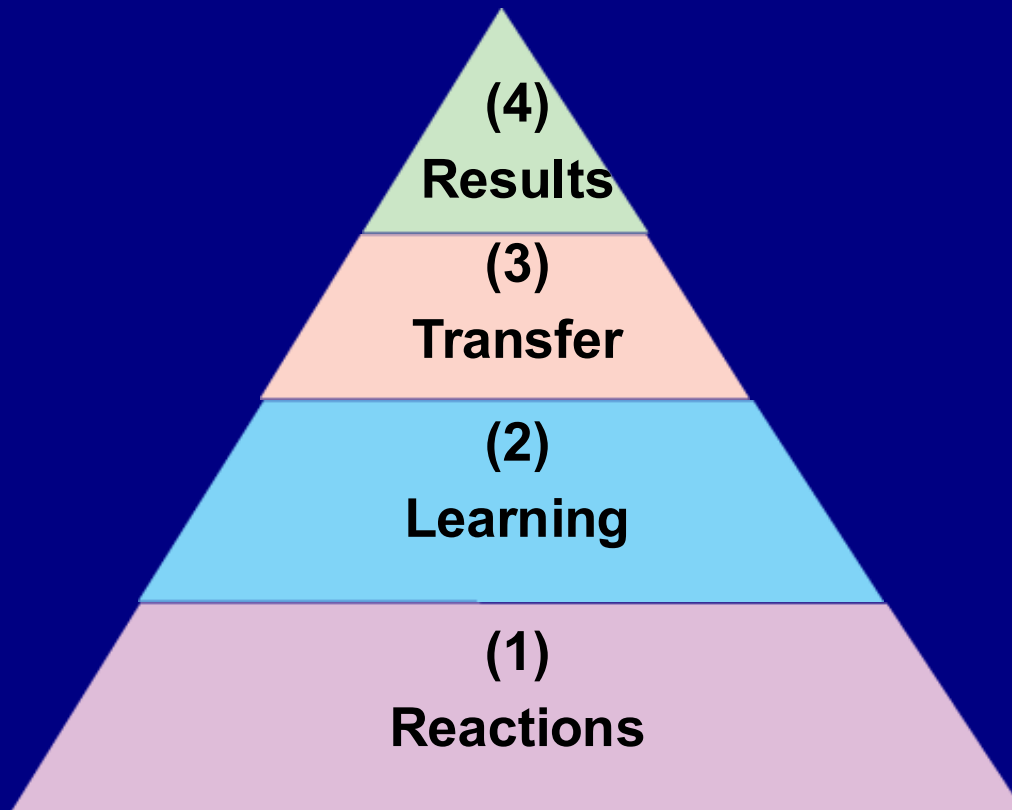
Law 4.

Adults will increase their behavior after one exposure to materials if they are already doing that behavior but it takes three exposures to get them to do a new behavior they are not already doing

Behavior Change Sequence



Kirkpatrick's Four Levels of Evaluation



- **Level 4 - Results**
(sustained change or use)
- **Level 3 - Transfer**
(behavior change or use)
- **Level 2 - Learning**
(has learning occurred)
- **Level 1 - Reaction**
(like/dislike)

Level 1 (Reaction) Evaluation Questions for Medical Education

The overall quality of the content was...

poor

subpar

fair

good

excellent

The relevance of the content to my professional needs was...

poor

subpar

fair

good

excellent

The speaker's effectiveness at delivering the material was...

poor

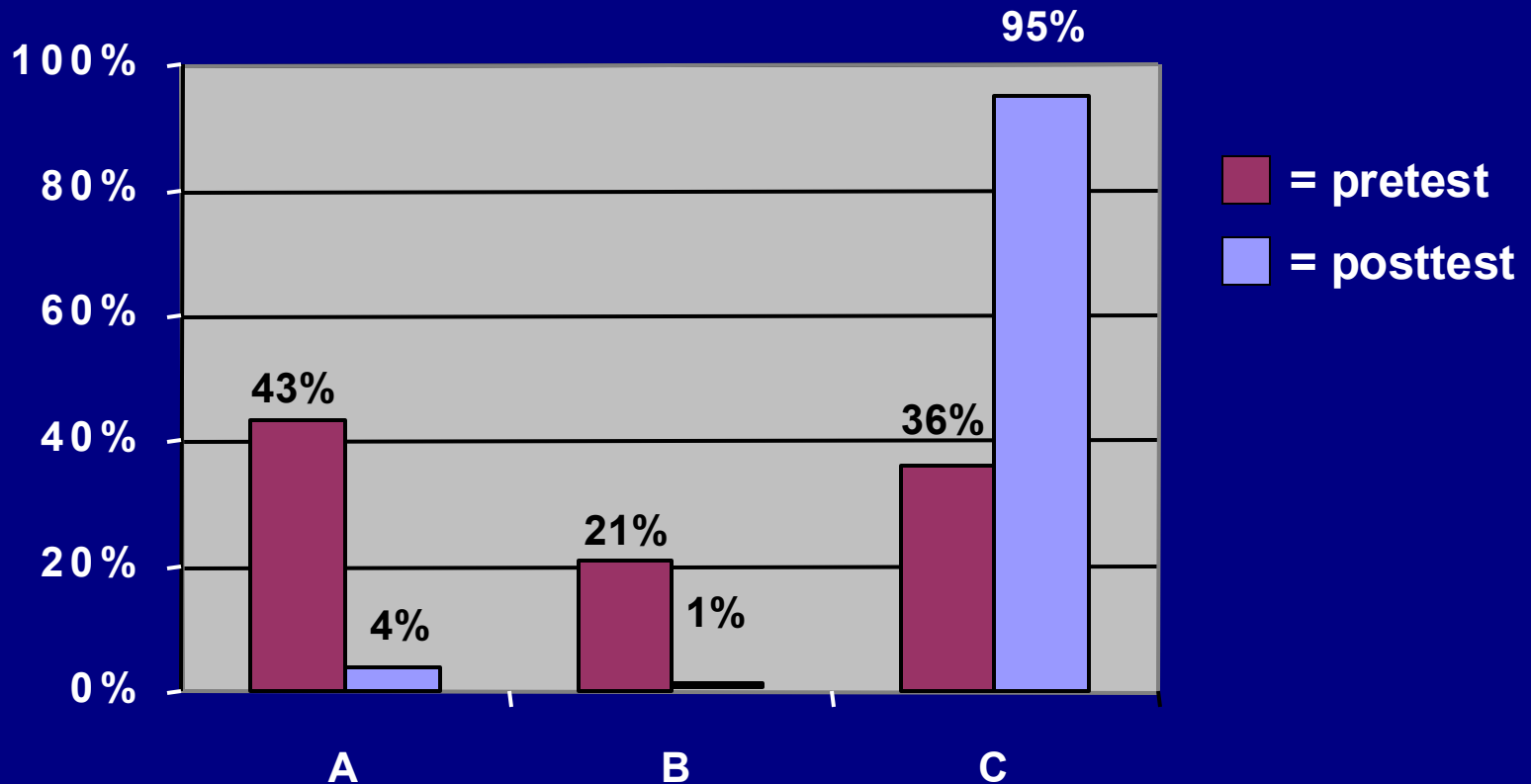
subpar

fair

good

excellent

Level 2: Learning using Pretest and Posttest Comparison for Evaluation of Learning



In patients who may develop metabolic problems, what is often the first change?

A. Weight gain

B. Fasting glucose levels greater than 100 mg/dl

✓ C. Change in triglycerides

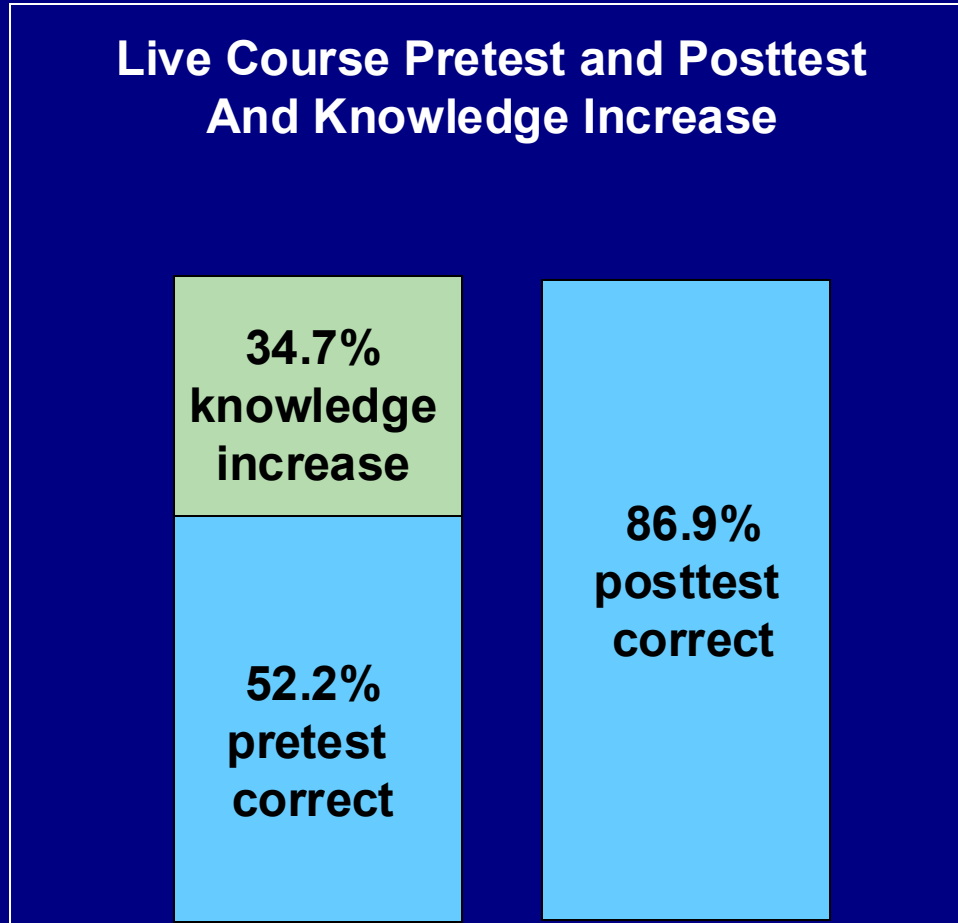
Measuring Learning: Posttest, Pre-post Comparisons and Long-term Follow-up

Live Course Pretest and Posttest And Knowledge Increase

34.7%
knowledge
increase

52.2%
pretest
correct

86.9%
posttest
correct



Levels 3 and 4 (Transfer and Results):

Posttest, Pre-post Comparisons and Long-term Follow-up

Bipolar 1 Course Follow-Up mailed at 6 weeks, returned 7-10 weeks post activity, return rate 15%			
% Correct	Change from Pre score (43.7%)	Change from Post score (87.1%)	% of Increase Retained*
59.1%	15.4%	-28.0%	35.9%
* For the average increase from pretest to posttest scores (43.4%) 35.9% of the increase was retained 7-10 weeks later			

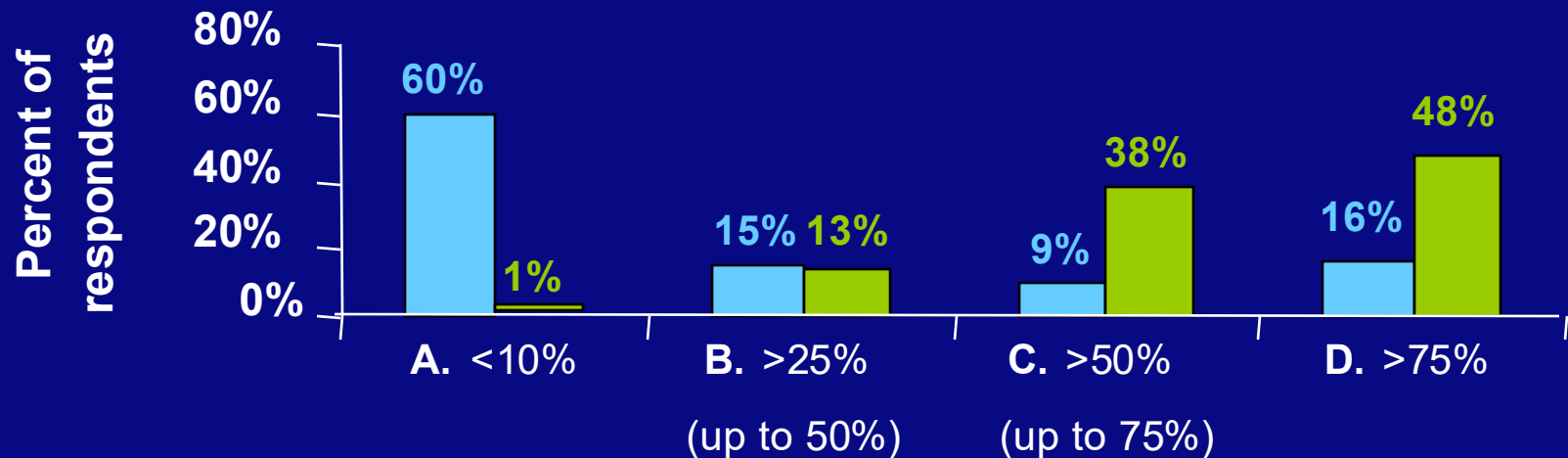
Sample Proxy Level 3 (Behavior) Evaluation of Confidence Level After Medical Education

Pretest (blue):

If a chart audit was conducted in your practice today,
how many of your patients would have
blood pressure, weight, and body mass index recorded regularly?

Posttest (green):

If a chart audit were conducted in your practice in one year,
your goal would be to have what percentage of patients with
blood pressure, weight, and body mass index recorded regularly?



Tuffte Tips 1:

Excellence in Graphical Displays from Edward Tufte

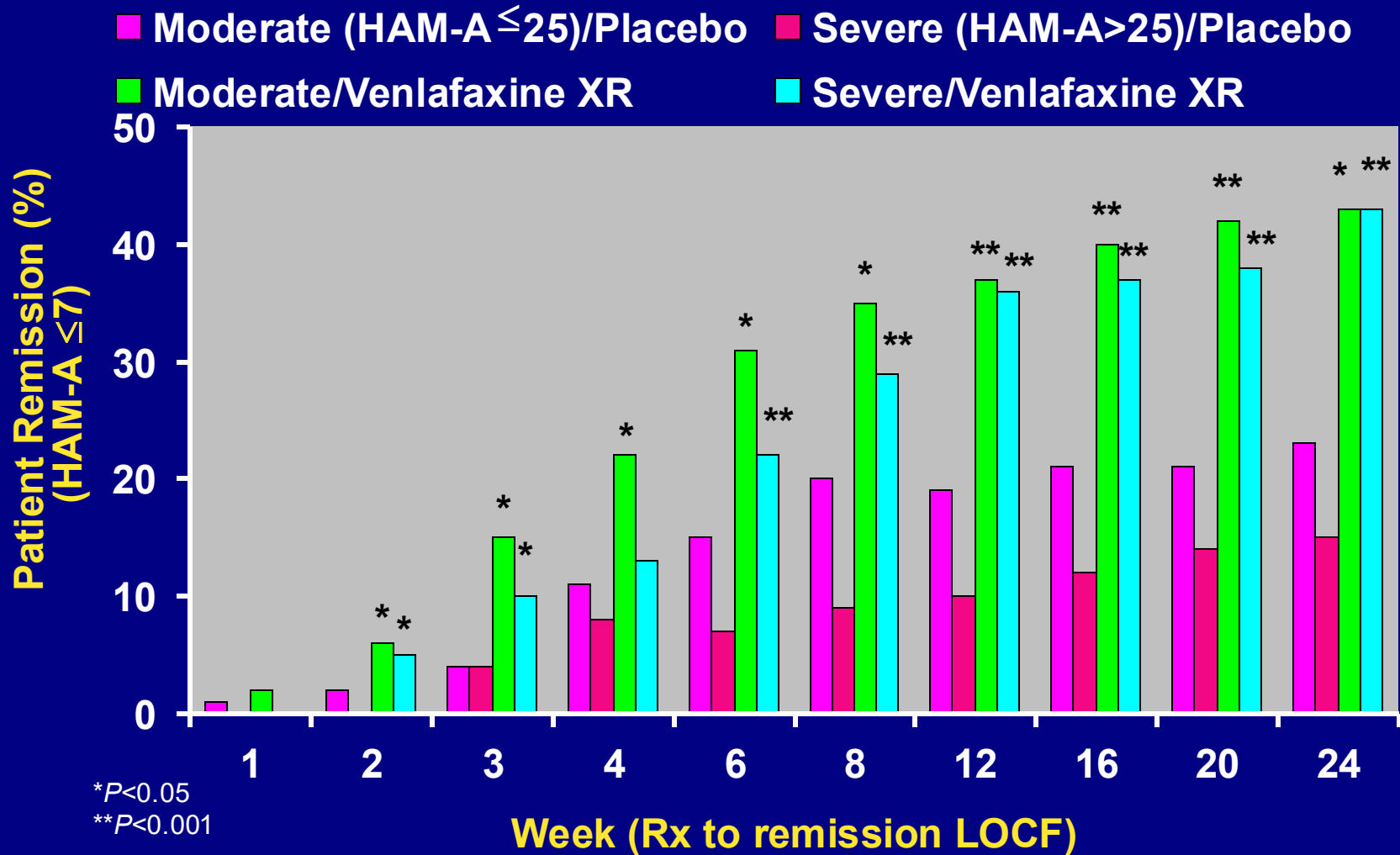
- **Use complex ideas communicated with clarity, precision, and efficiency.**
- **Draw the viewer's attention to the sense and substance of the data.**
- **Show the data with a high proportion of data ink.**
- **Emphasize data ink (such as dots, lines, and labels; the non-erasable core of a graphic; and the non-redundant ink arranged in response to variation in the numbers represented).**
- **De-emphasize non-data ink (such as the title, the abscissa, and the ordinate, and their labels).**
- **Change data ink as the data change.**

Helpful Builds for Medical Presentations

Graphs

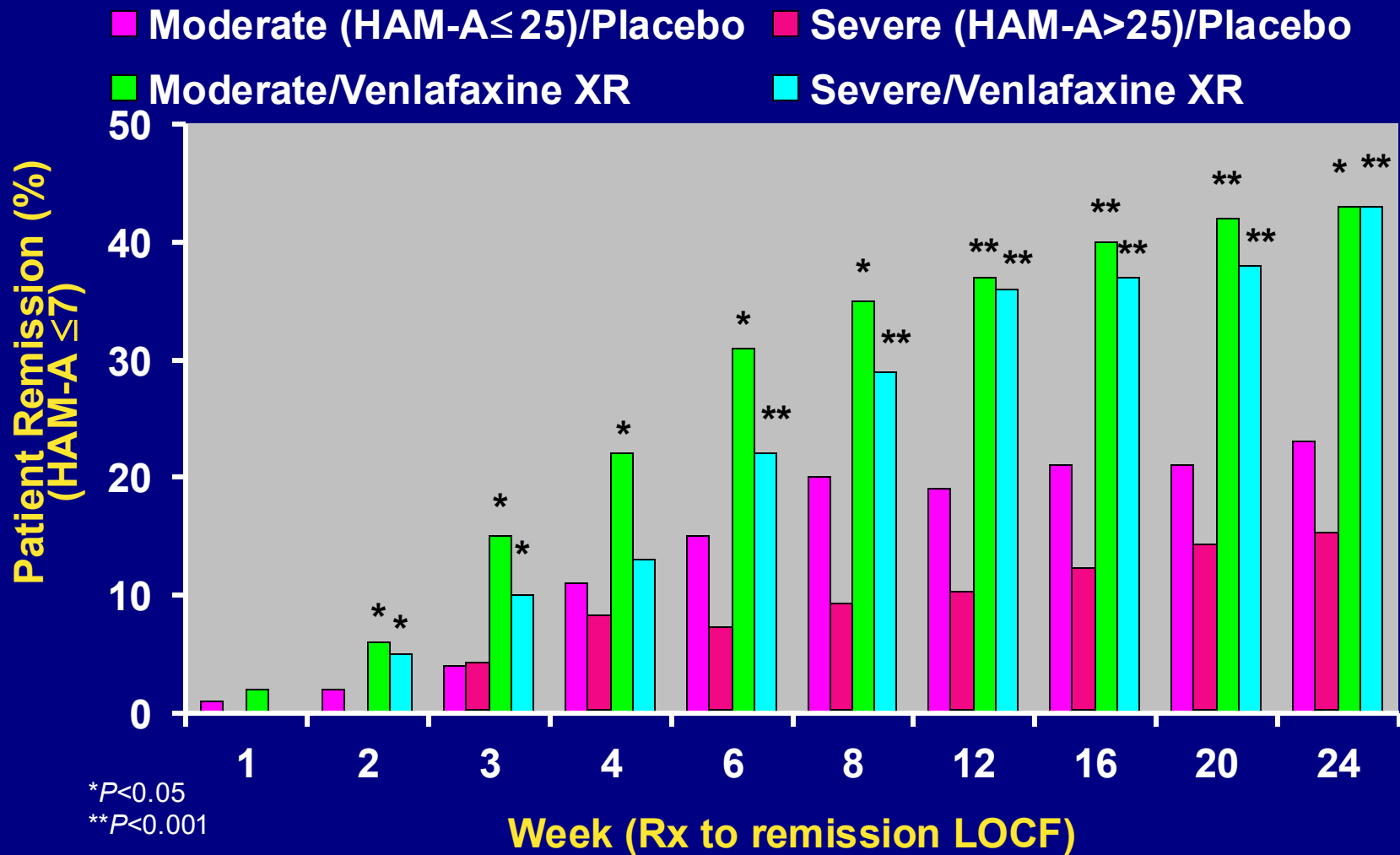
Instructors can bring in the non-data ink first, the axes, without the bars or lines representing the data ink. This allows time for a description of what is being measured and how. Once the audience members understand the point of the study, the instructor can click to reveal the results.

Effect of Time on Venlafaxine XR Treatment of Moderate to Severe Anxiety



Data on file, 1999.

Effect of Time on Venlafaxine XR Treatment of Moderate to Severe Anxiety



Data on file, 1999.

Tufte Tips 2:

Excellence in Graphical Displays

- **Induce the viewer to think about substance rather than about methodology, graphic design, the technology of graphic production, or something else.**
- **Avoid distorting what the data have to say.**
- **Present many numbers in a small space.**
- **Make large data sets coherent.**

Tufte Tips 3:

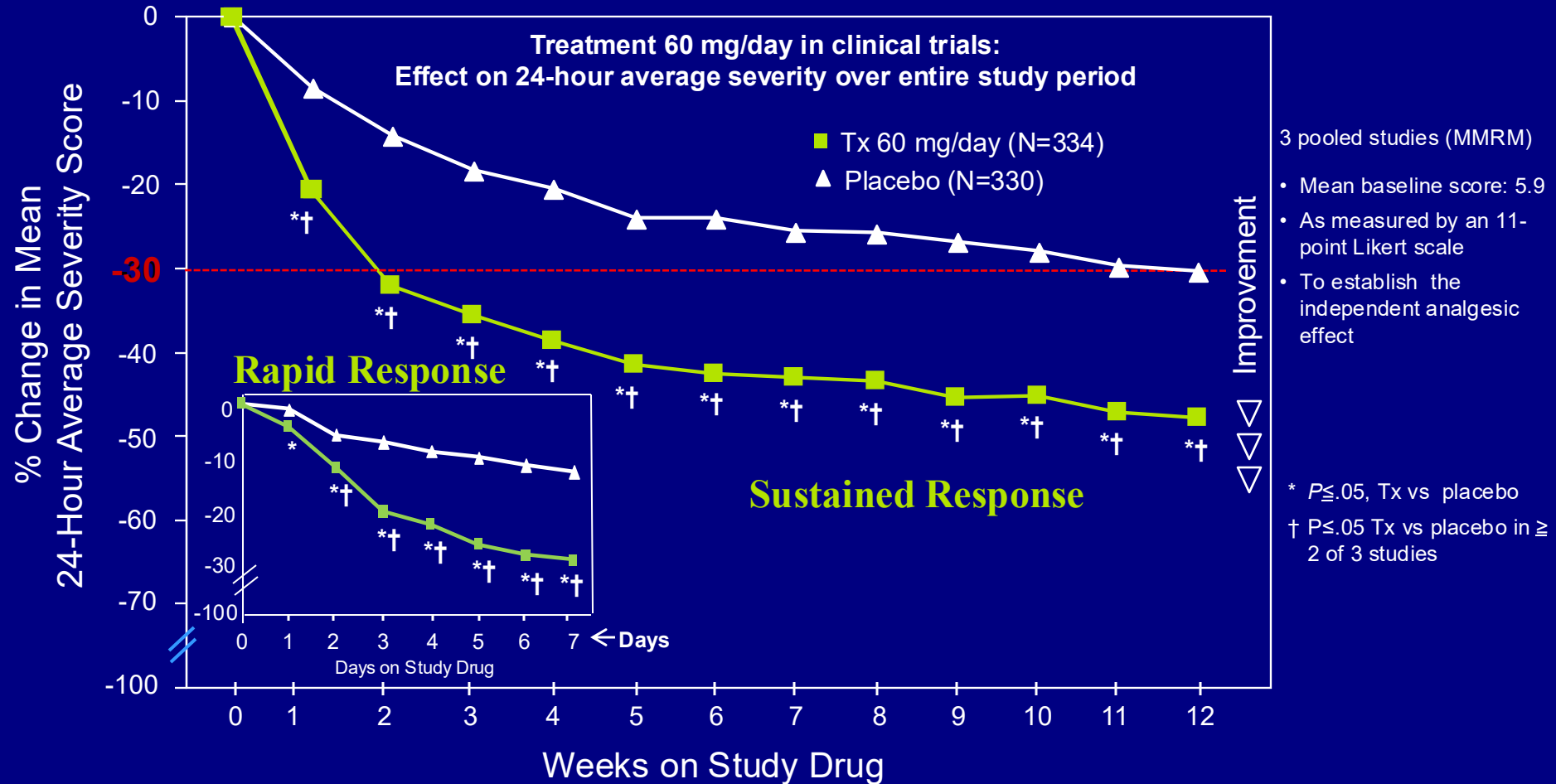
Excellence in Graphical Displays

- **Encourage the eye to compare different pieces of data.**
- **Reveal the data at several levels of detail, from a broad overview to the fine structure.**
- **Serve a reasonably clear purpose: description, exploration, tabulation, or decoration**
- **Be closely integrated with the statistical and verbal descriptions of a data set.**

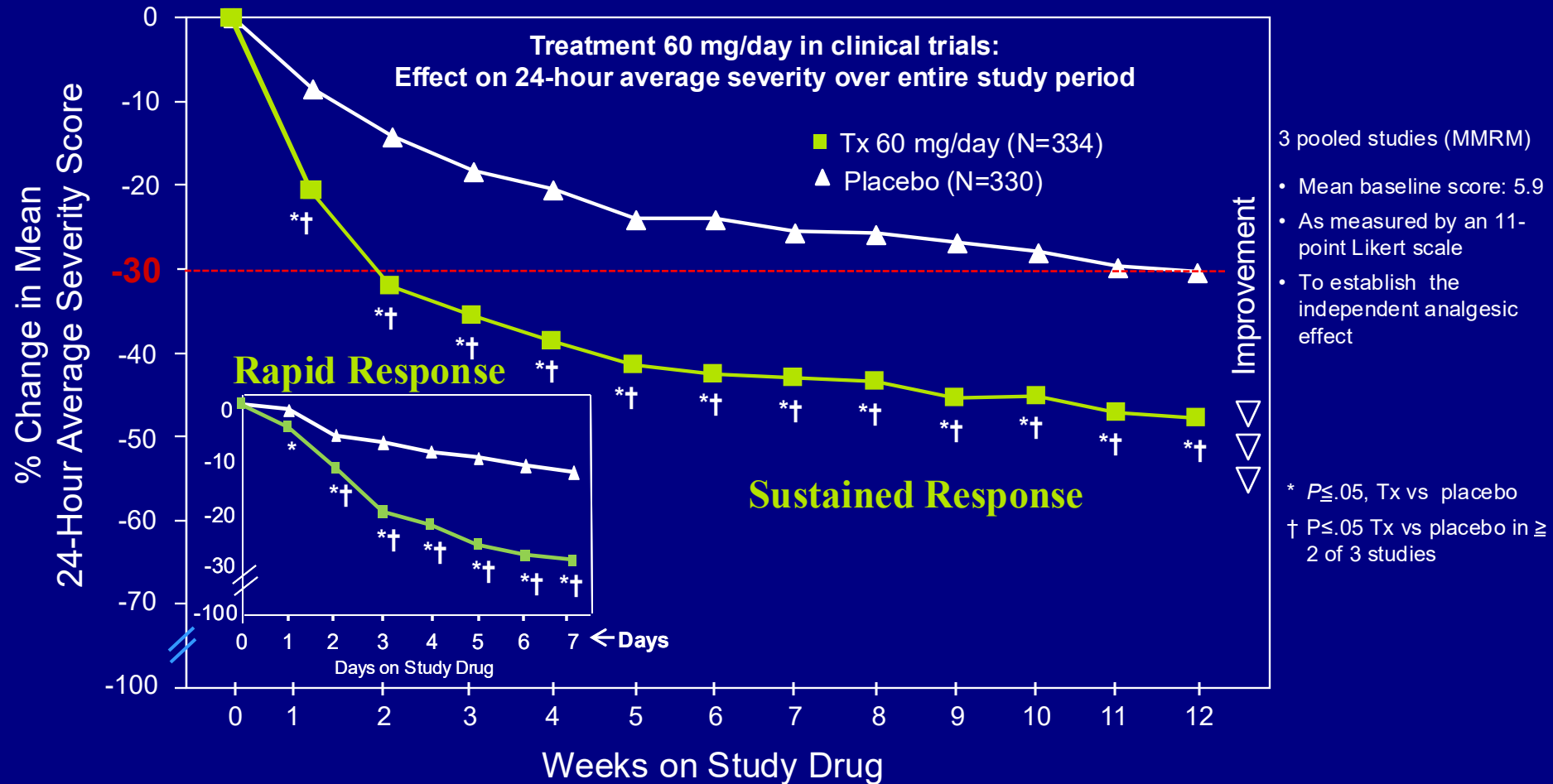
Tufte Tips 4: Review of the Characteristics of Presentations Using Well-Designed Small Multiples

- **Inevitably comparable multiples**
- **Deftly multivariate**
- **Shrunken, high density graphics**
- **Usually based on a large data matrix**
- **Drawn almost entirely with data ink**
- **Efficient in interpretation**
- **Often narrative in content, showing shifts in the relationship between variables as the index variable changes (thereby revealing interactions or multiplicative effects)**

Rapid and Sustained Response



Rapid and Sustained Response



Summary

- Immensely gratified for this honor
- Teaching the teachers of psychopharmacology is a noble pursuit, leveraging your influence to hundreds of participants and to thousands of patients
- Remember: The emphasis of teaching should be on the participant, not on the content or on the presenter
- Your goal is to maximize learning in order to facilitate behavioral change in the practice of psychopharmacology
- Implement some “Tufte tips” for enhancing presentations that will enhance learning, retention and positive behavioral change in your participants

Interval learning

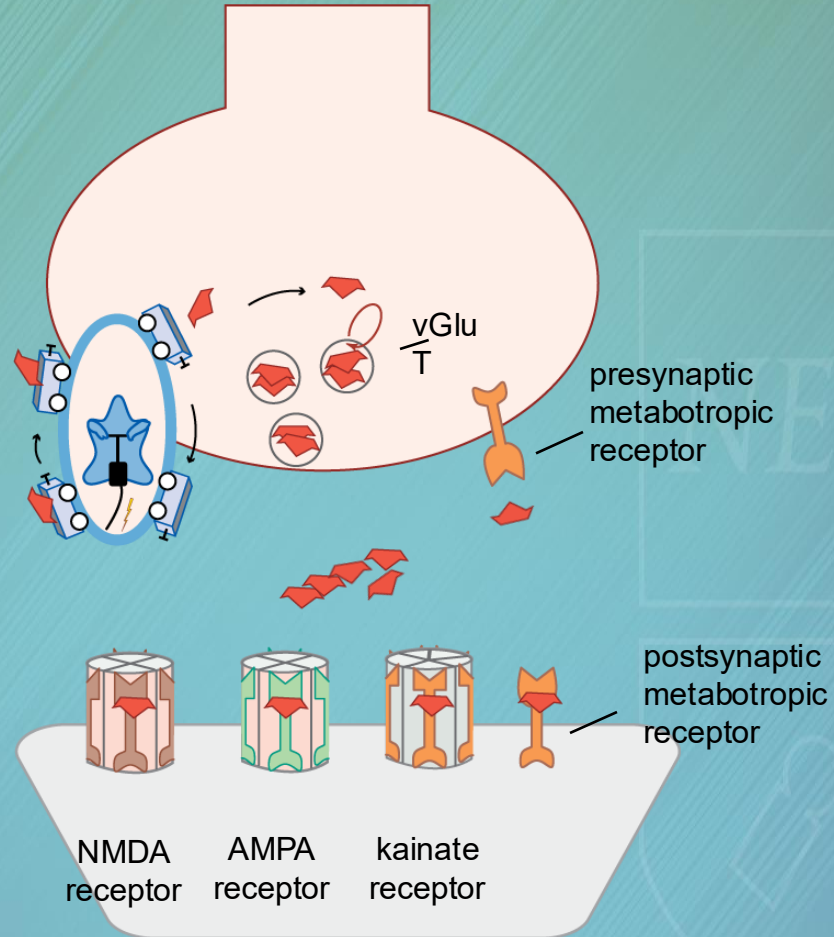
- Say what you are going to say
- Say it
- Say what you said

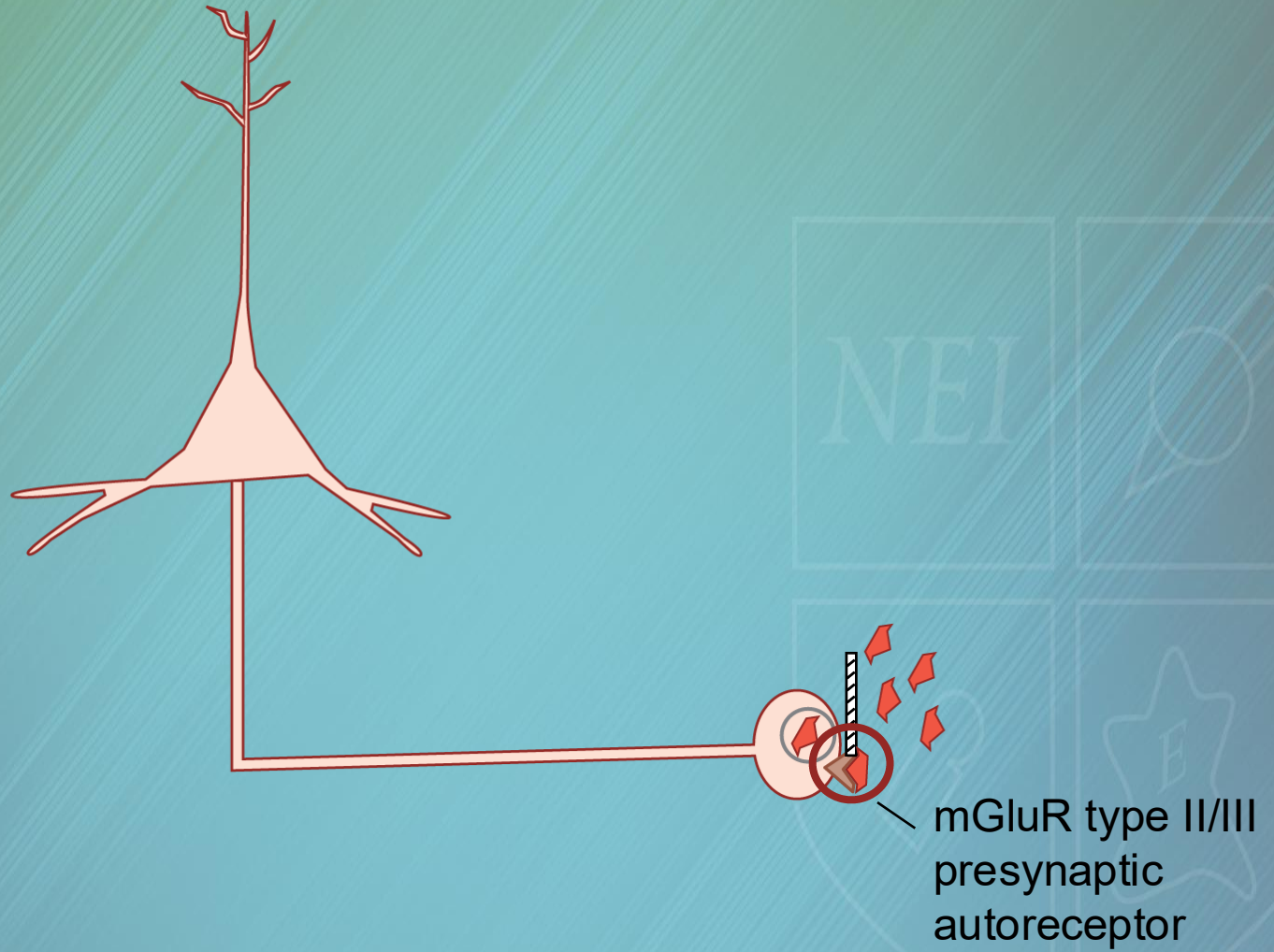


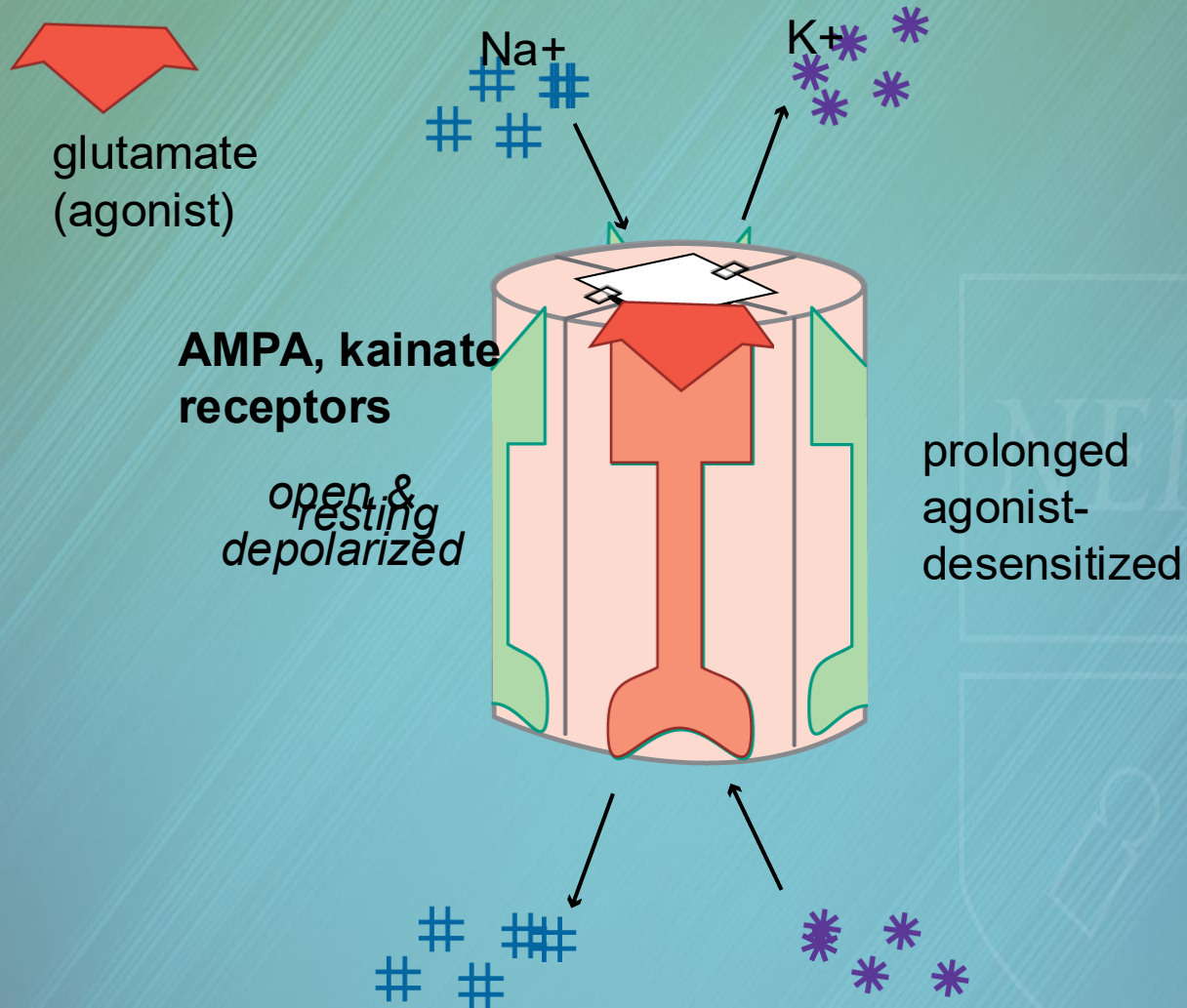
Say what I'm Going to Say (in words)

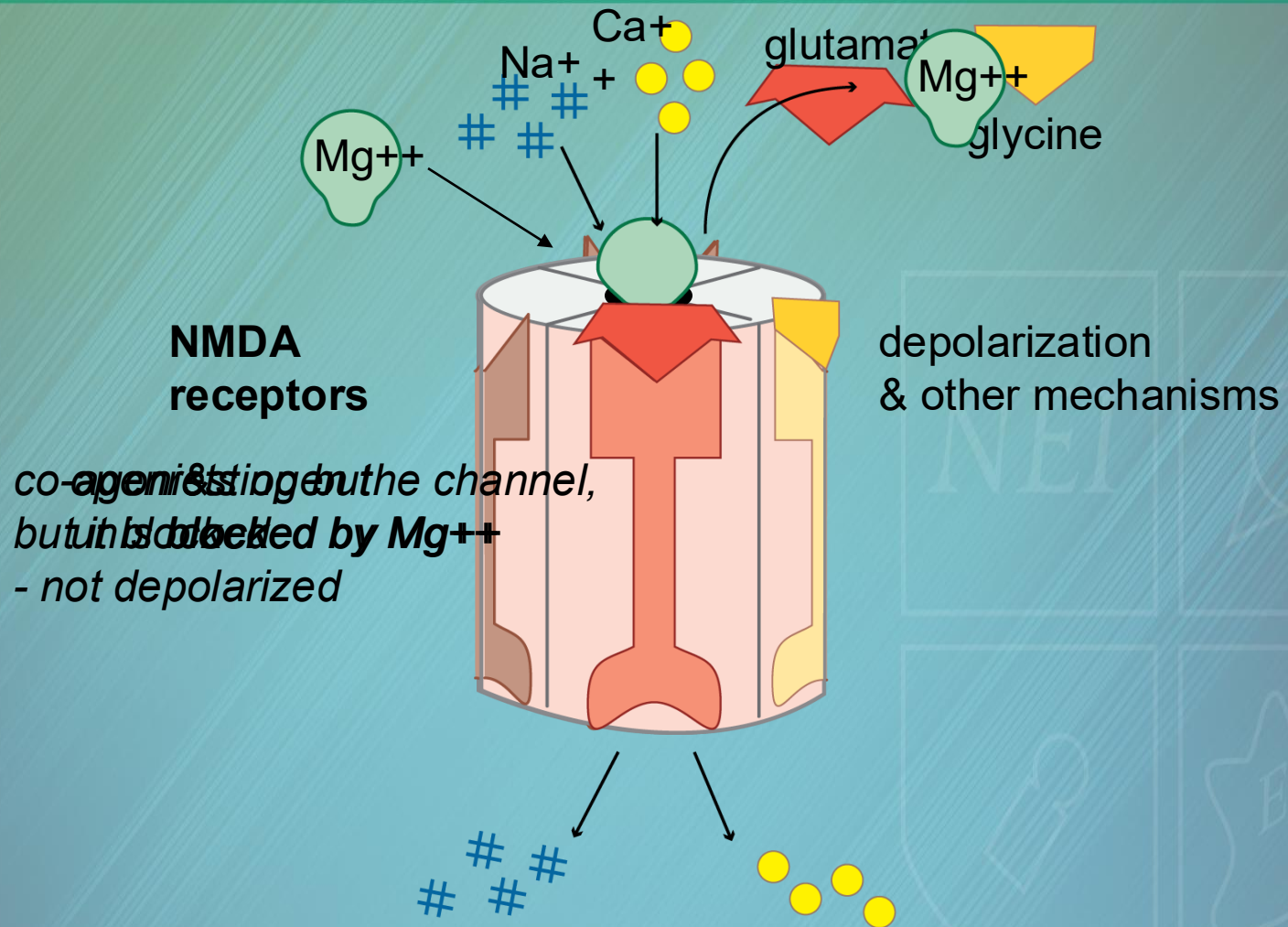
- There are multiple glutamate receptors
- For excitatory neurotransmission, AMPA receptors immediately cause sodium to flow and depolarize the neuron
- With depolarization, NMDA receptors cause calcium to flow and resultant LTP long term potentiation, synaptogenesis, neuroplasticity and learning/memory

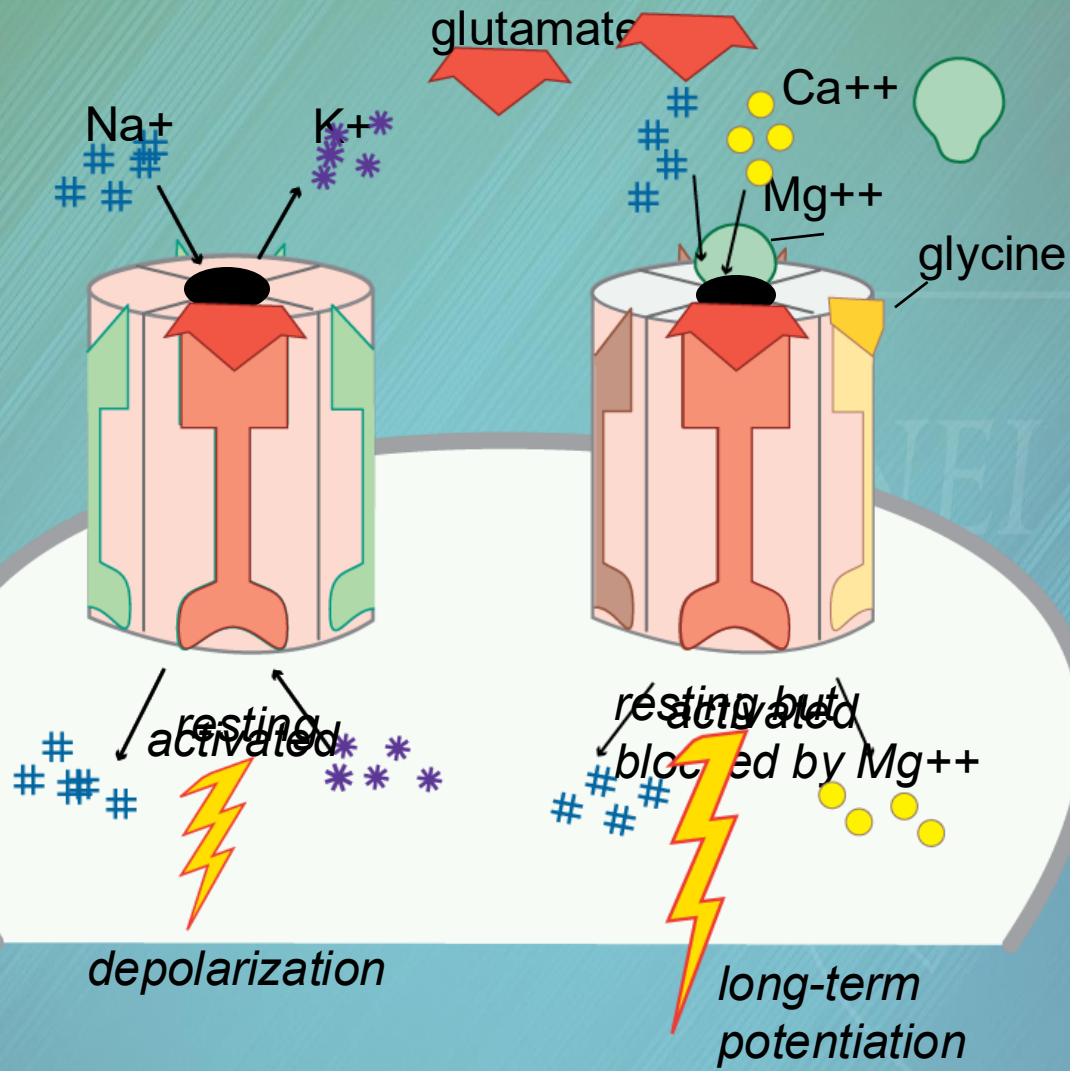
SAY IT (In diagrams): Glutamate Receptors











Say what I said (animation, whimsy, humor)

