



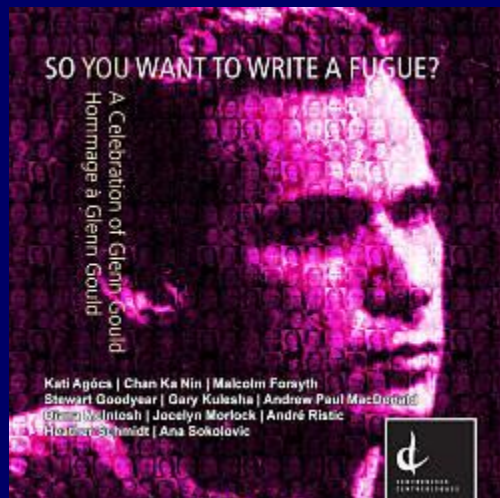
Education Neurology paradigm shift in training and assessment

TC 50

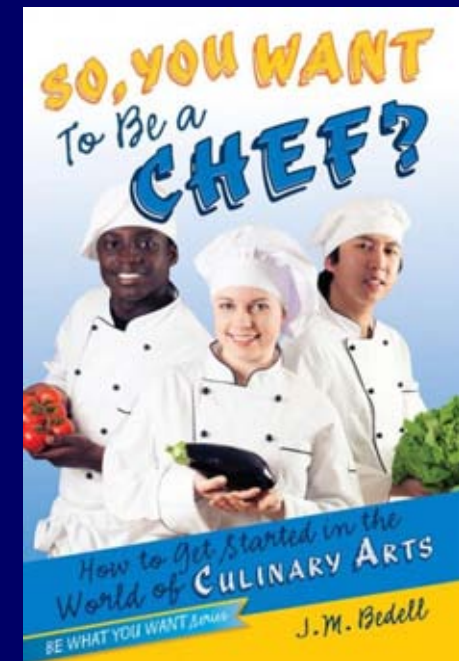


Education Neurology

So you want to be an Educator !



TC 50





14.30 Teaching and Learning in the 21st Century
Jan Kuks Groningen, The Netherlands

15.05 What is important in today's neurological training?
Tissa Wijeratne (Australia)

16.00 Break



16.30 Assessment in a postgraduate setting
Walter Struhal (Linz, Austria)

17.05 Continuous medical education /e-learning
Man Mohan Mehndiratta (New Dehli, India)

18.00





Teaching and Learning in the 21th Century



Future and Challenge of Education



University Medical Centre Groningen
The Netherlands

JBM Kuks, MD PhD
Dept of Neurology
Dept of Medical Education

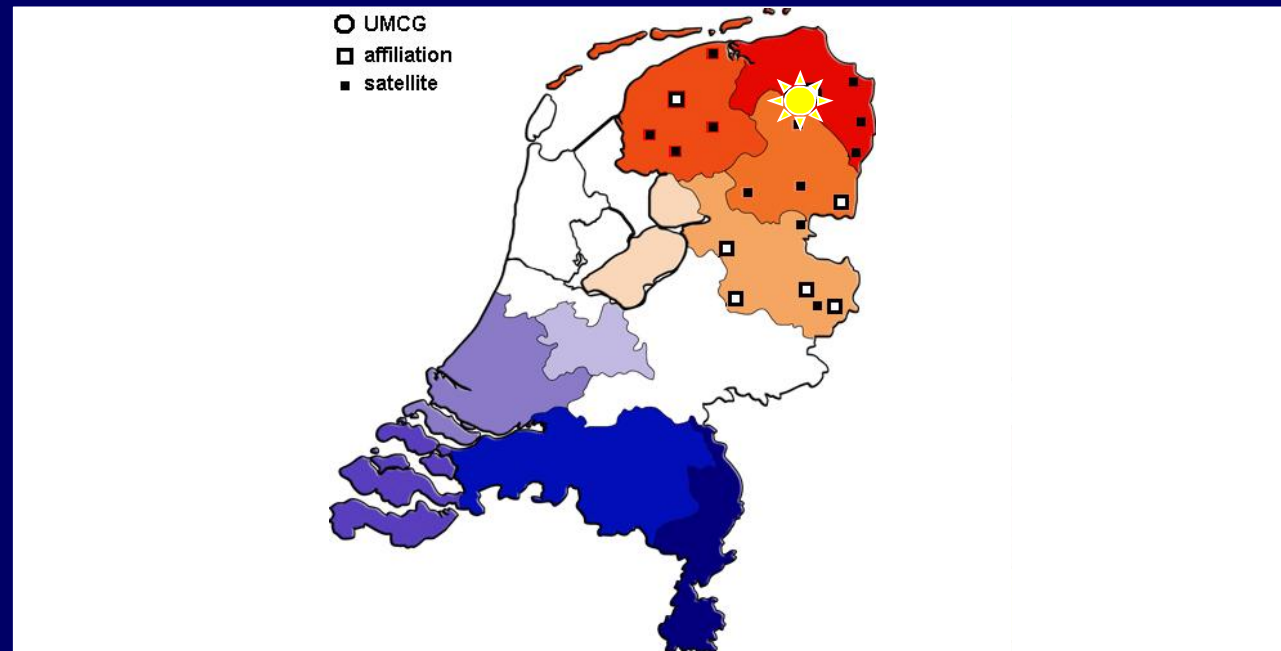


1. Issues in Education
2. Challenges for Education
3. Methods of Education
4. About Learning
5. Assessment
6. Take Home



University Medical Centre Groningen
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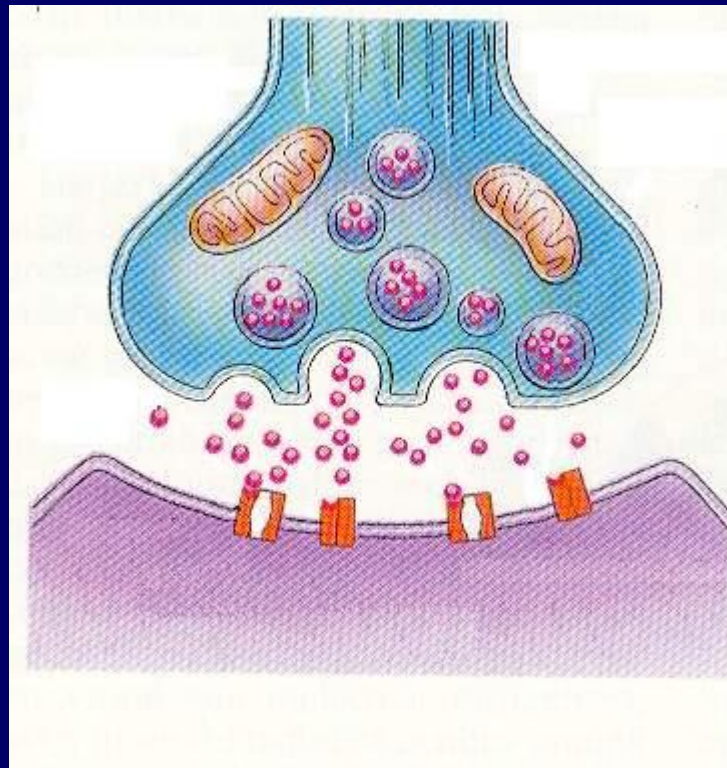


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Neurology and Education



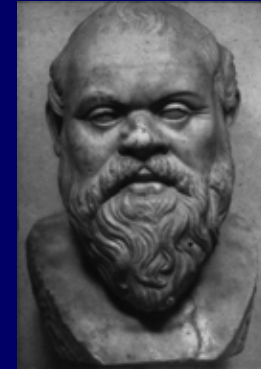
University Medical Centre Groningen
The Netherlands

JBM Kuks, MD PhD
Dept of Neurology
Dept of Medical Education





Education



What ?

Forwarding Information
and Experience
in a compact way

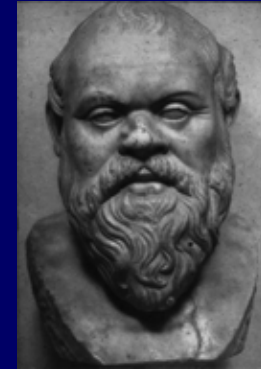


Stimulation to Think
and Solve
in an authentic way

Being a Role Model
in a relaxed way



Education



What for ?

Benefitting patients

Advancing science

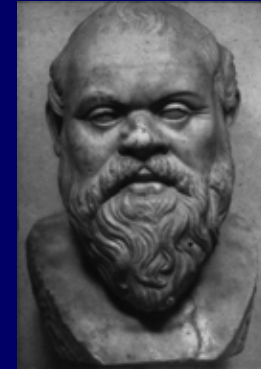
Shaping students

Educating yourself





Education

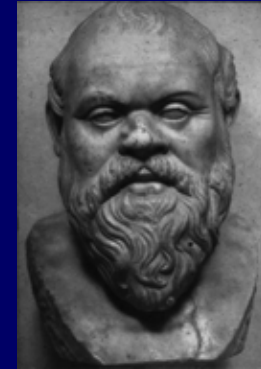


What-not ?

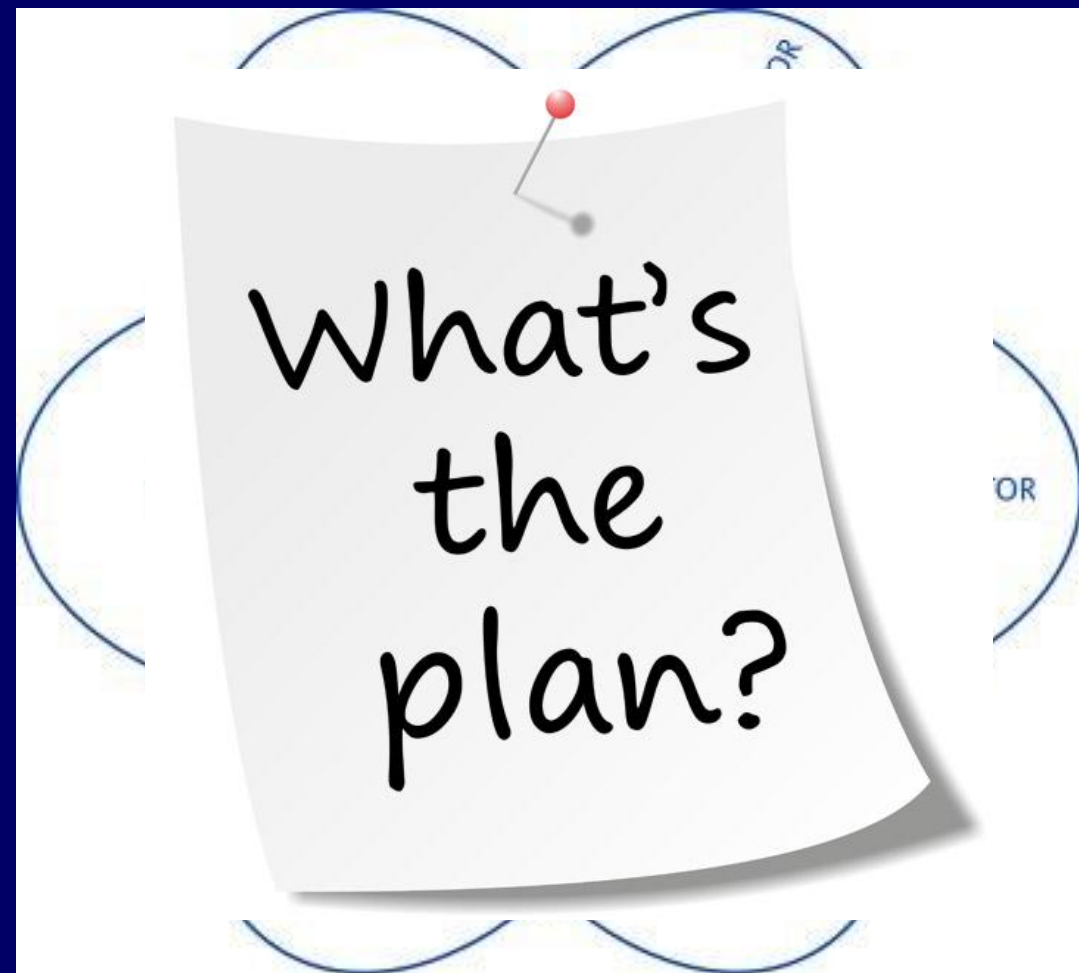




Education

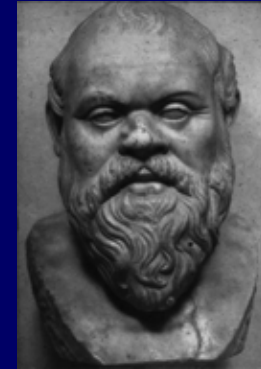


What-not ?





Education



What the hell?

Life is rapidly
changing !





Challenges for Education



Expanding medical knowledge

Relationships between
commercial sponsors and
medical education!



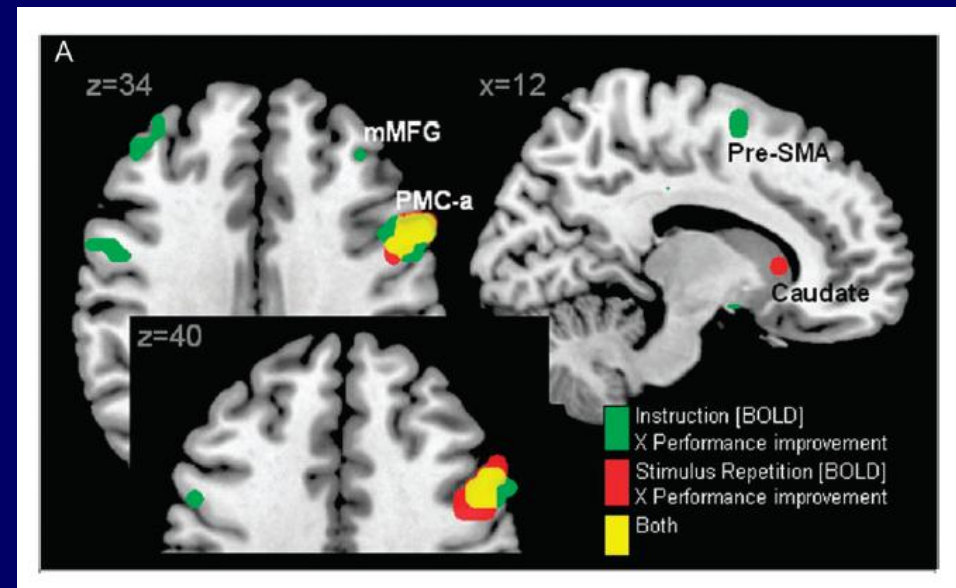


Challenges for Education



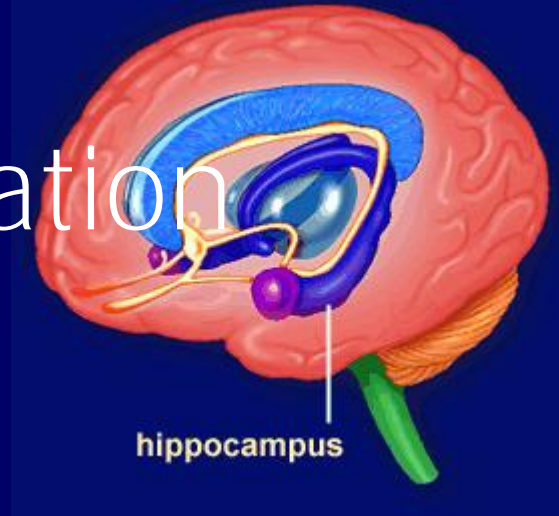
Expanding medical knowledge

Increasing insights in neurobiology of learning





Challenges for Education



What makes learning stick?

Spacing effect: repeated exposure for long term memory

(Pagani Cell 2009)

Vividness effect: increase of hippocampal activation and episodic memory

(Moscovitch Curr Opin Neurobiol 2006)

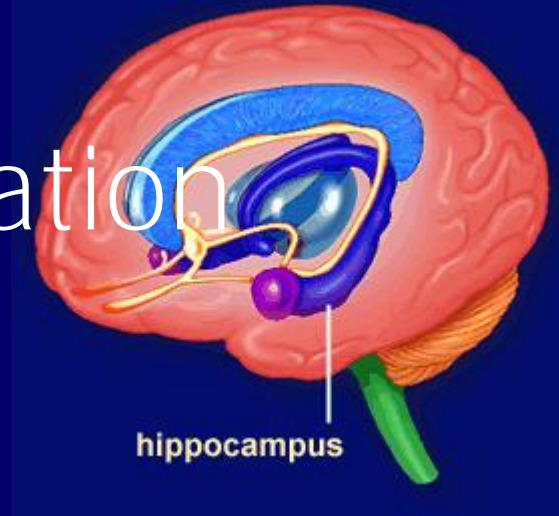
Stress effect: mild acute increases neuronal survival, chronic stress decreases

(Snyder, Hippocampus 2006)





Challenges for Education



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Challenges for Education



Expanding medical knowledge

Increasing insights in neurobiology of learning

Increasing insights in teaching



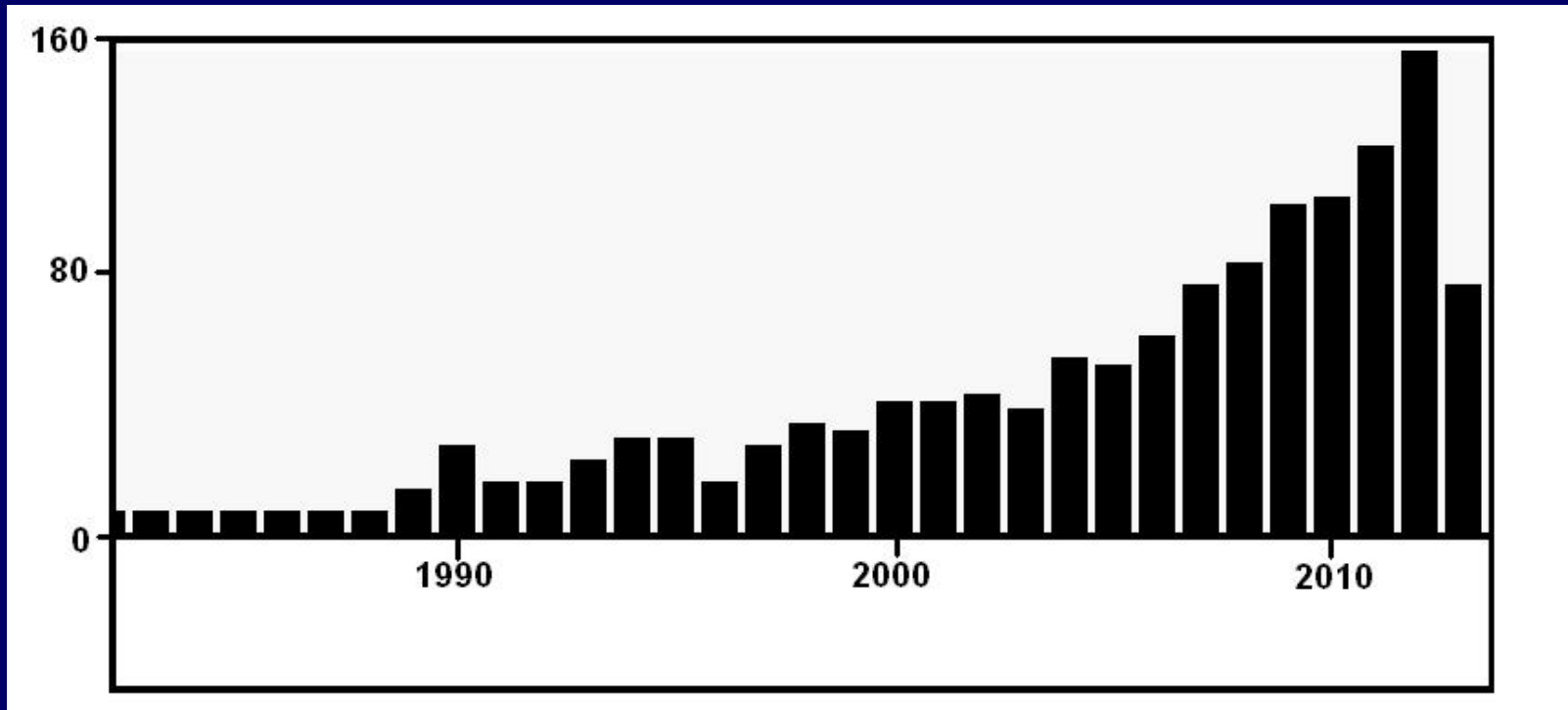


NCBI Resources How To

PubMed.gov
US National Library of Medicine
National Institutes of Health

PubMed postgraduate learning

RSS Save search Advanced





Neurology[®]

THE MOST WIDELY READ AND HIGHLY
CITED PEER-REVIEWED NEUROLOGY JOURNAL

The Official Journal of the
American Academy of Neurology

Articles

Simulation-based education with mastery learning improves residents' lumbar puncture skills

Jeffrey H. Barsuk, MD, MS, Elaine R. Cohen, MEd, Timothy Caprio, MD, William C. McGaghie, PhD, Tanya Simuni, MD and Diane B. Wayne, MD

+ SHOW AFFILIATIONS | + SHOW FULL DISCLOSURES

Correspondence & reprint requests to Dr. Barsuk: jbarsuk@nmh.org

Published online before print June 6, 2012, doi: 10.1212/WNL.0b013e31825dd39d
Neurology July 10, 2012 vol. 79 no. 2 132-137

Checklist skill Item

Informed consent obtained

Benefits

Risks

Consent given

Wash hands

Call "time out"

Properly position the patient

Demonstrate knowledge of correct anatomic location for procedure

Put on sterile gloves

Properly set up equipment

Manometer

Tubes

Clean the skin with Betadine x 3 (do not use chlorhexidine)

Drape the patient

Use 1% lidocaine to form a wheal at intended site

Anesthetize deeper structures (larger needle)

Insert spinal needle advancing toward umbilicus

Bevel must be in correct direction

Slowly advance the needle with periodic checking for CSF (removal of stylet) until space entered

Measure opening pressure

Collect fluid in proper tubes

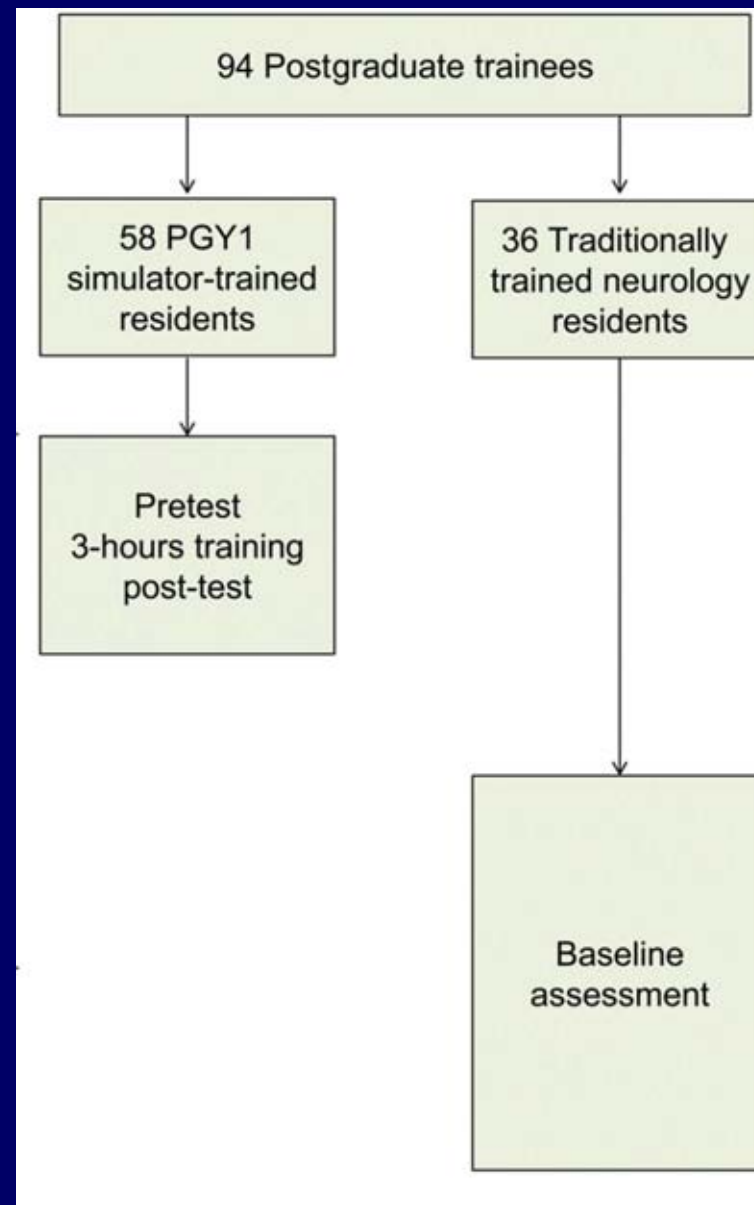
Remove the needle after the stylet is replaced

Place dressing

Notify the nurse the procedure is done; give postprocedure orders

List routine tests to be ordered (must include glucose, cell count, protein, Gram stain, culture)

Maintain sterile technique



Checklist skill Item

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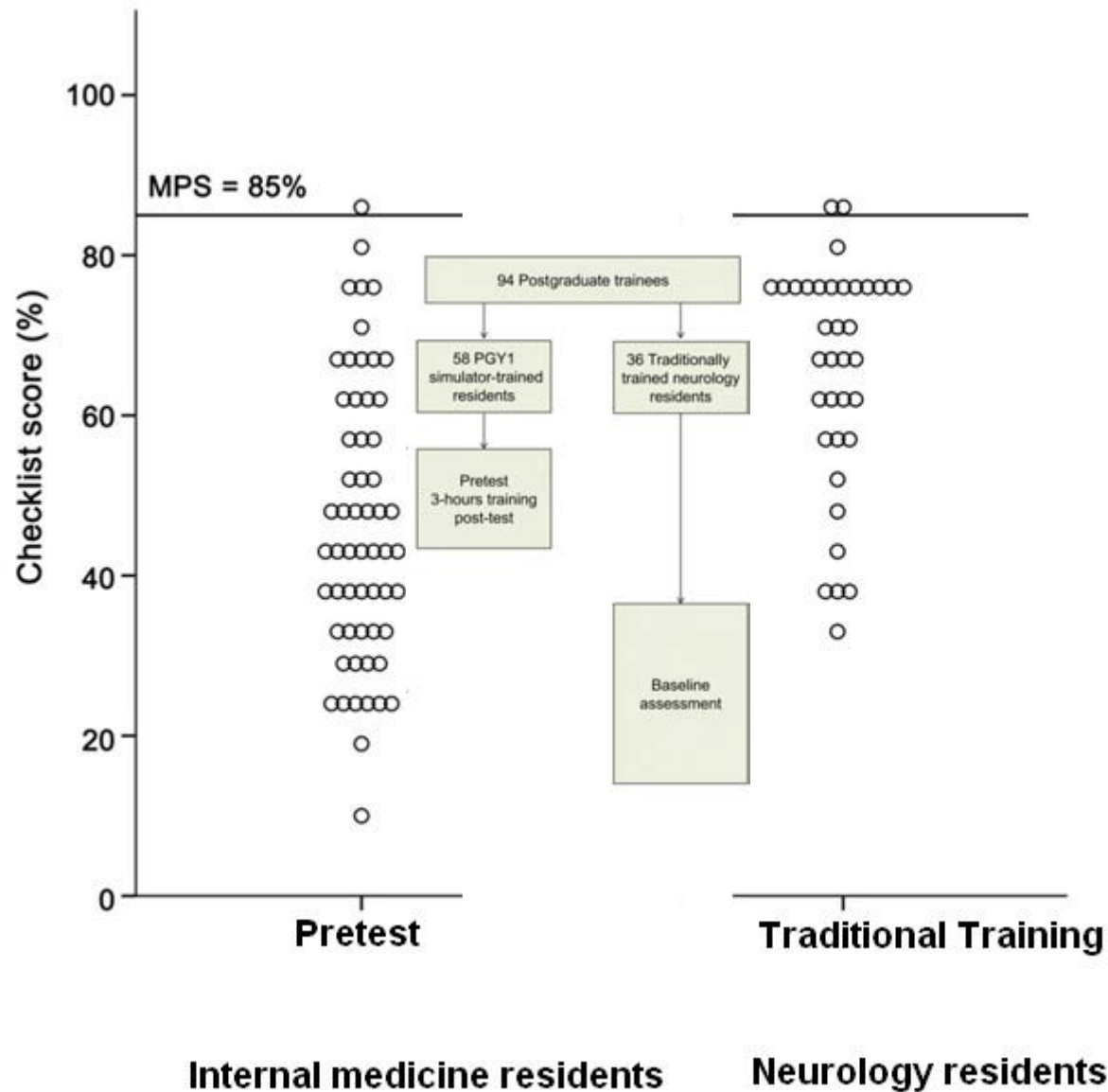
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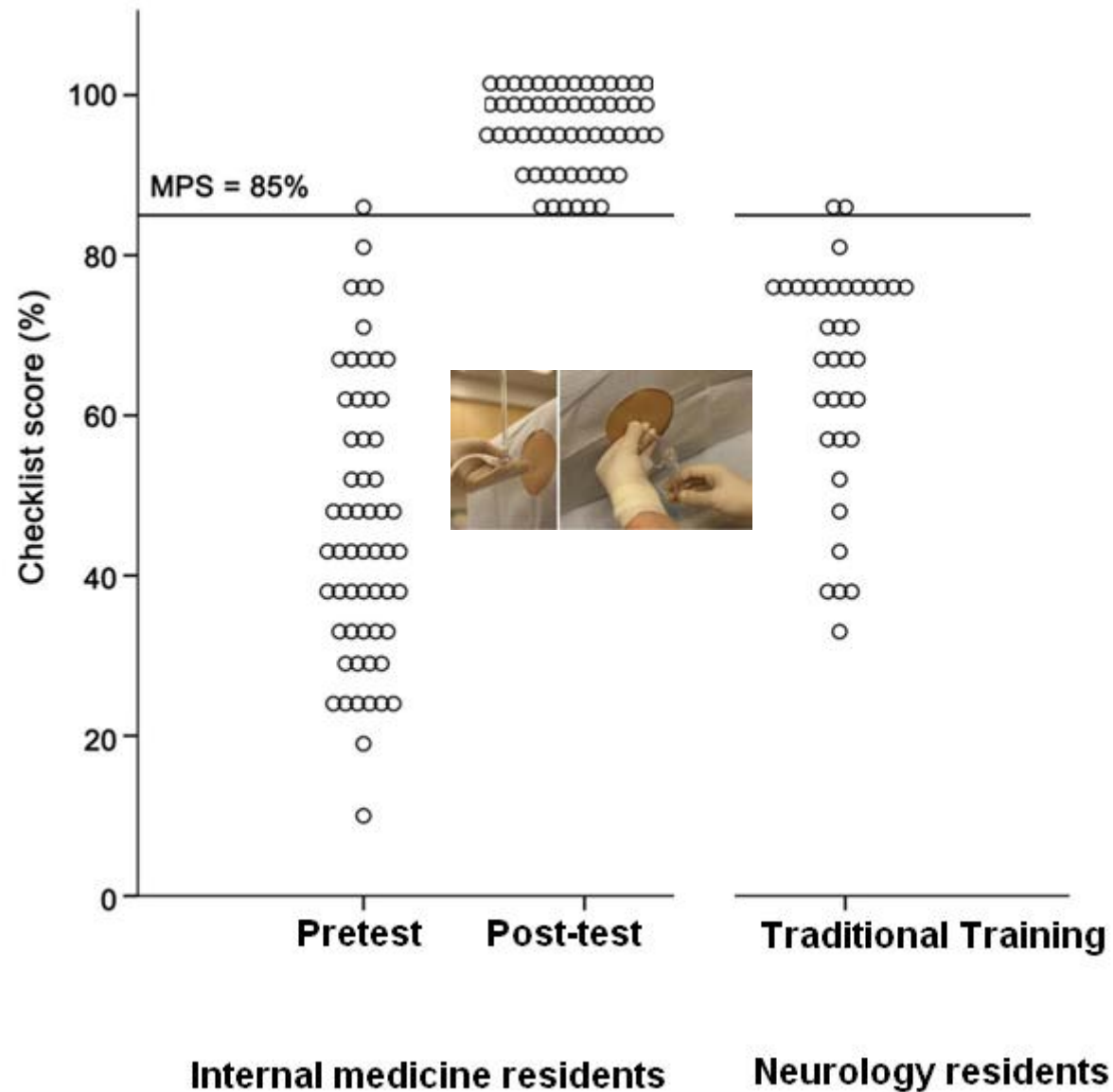
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Challenges for Education



Evidence Based Medicine

EBM -> BEME

Best Evidence Medical
Education



Challenges for Education



Expanding medical knowledge

Increasing insights in neurobiology of learning

Increasing insights in teaching

Modern Patients





Challenges for Education



Expanding medical knowledge

Increasing insights in neurobiology of learning

Increasing insights in teaching

Modern Patients

Modern Students





Generation	Years of birth	Descriptor	Characteristics
Traditionalists	1901-1945	Loyalists	Puts aside individual needs
			Faith in institutions
			Top-down management style
Baby Boomers	1946-1964	Optimists	Respect for hierarchy
			Grew up in world of opportunities
			Idealistic: Focused on righting wrongs
Gen X	1965-1980	Skeptics	Expect interpersonal communication and sharing
			Less faith in institutions
			More faith in themselves as individuals
Gen Y (Millennials)	1981-1999	Realists	Participated in technological revolution and are comfortable with multiple media
			Resourceful and independent
			Very comfortable with technology and the information superhighway
			Comfortable with physical and virtual space
			Appreciate and expect diversity
			Like to collaborate

Neurology[®]

THE MOST WIDELY READ AND HIGHLY
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The Official Journal of the
American Academy of Neurology

Teaching the next generation of neurologists

Mitchell S.V. Elkind
Neurology 2009;72;657-663



The Net Generation

Oblinger & Oblinger 2005: www.educase.edu



Born >1982

The internet is like oxygen,
one can't imagine to live without

- Like Gaming
- Eager for seeking and processing information
- More comfortable with multimedia environments
- Prefer to be actively engaged in tasks rather than reading or writing on events
- Social interaction is very important, especially with peers



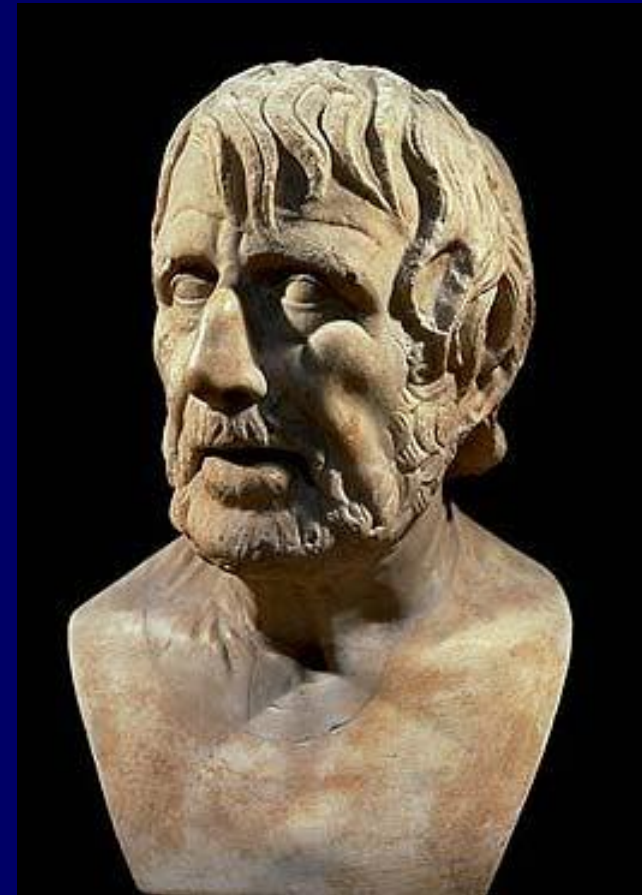


The Net Generation



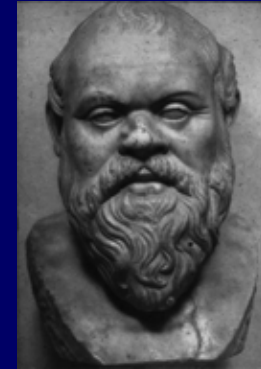
Seneca

Non Scholae
sed Vitae discimus





Education



What kind of?



Self Study



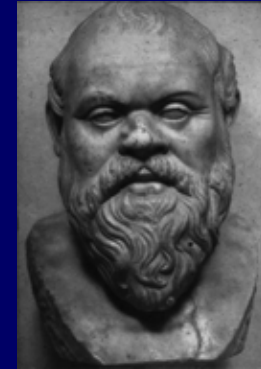
Lectures



Mentor



Education



What kind of?



Peer Group
Learning



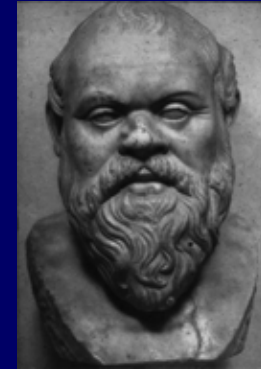
Skillstraining



Inter-
professional



Education



What kind of?



Peer Group
Learning

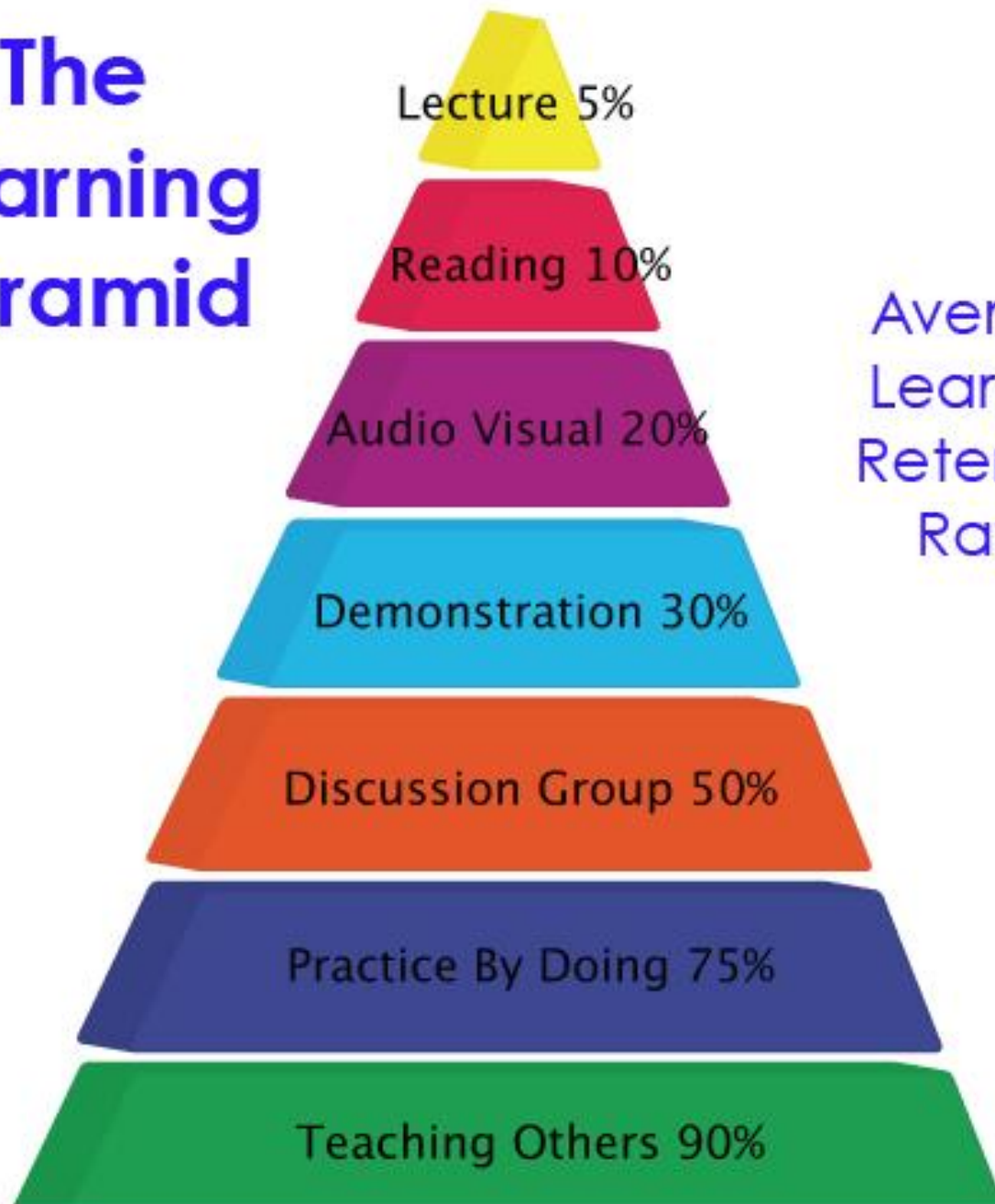


Long
Distance



Inter-
professional

The Learning Pyramid



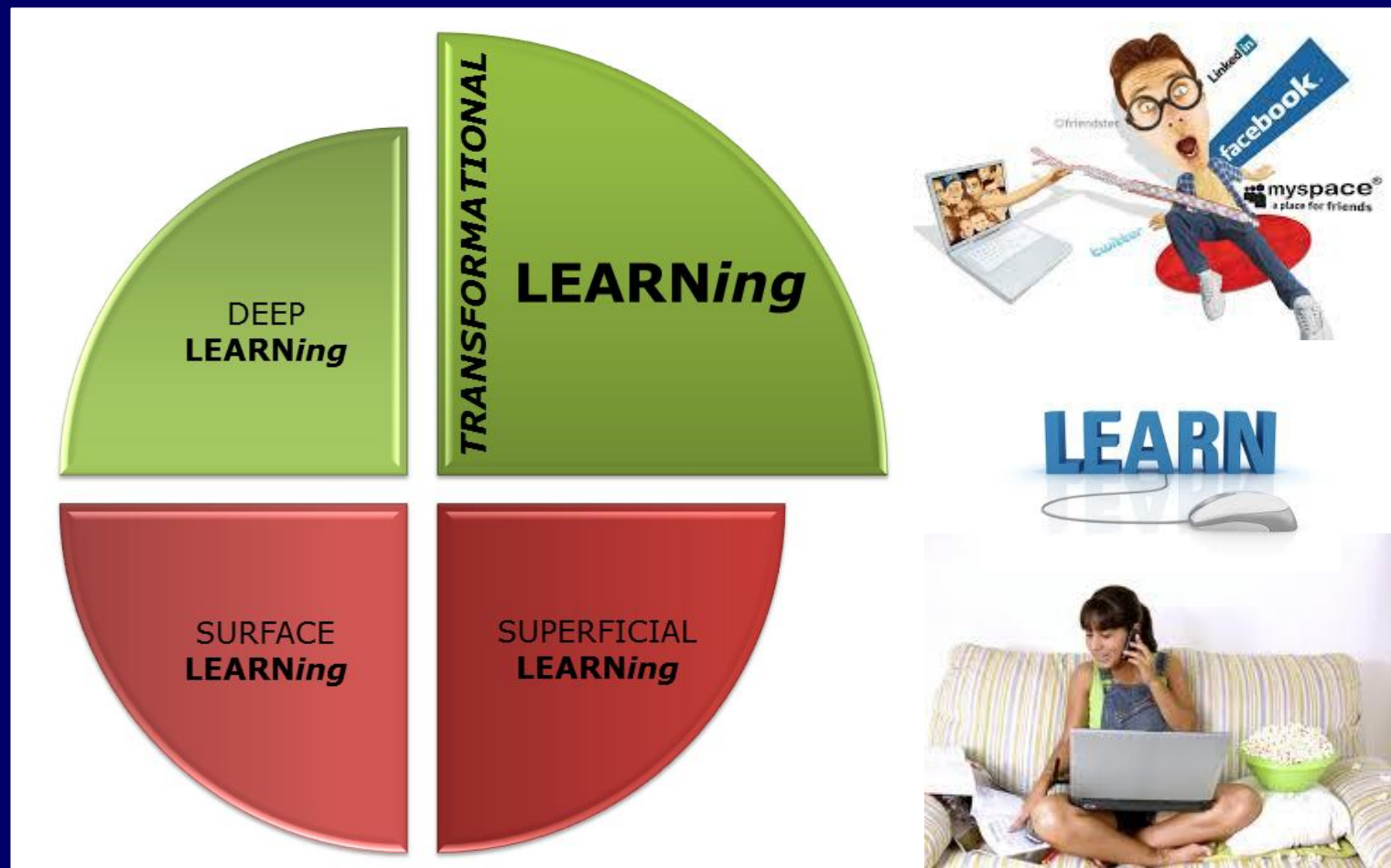
Average Learning Retention Rates



Adapted from NTL Institute for Applied Behavioral Science



Learning





Learning



<http://www.lifecircles-inc.com/Learningtheories/humanist/mezirow.html>

<http://exchange.ac.uk/learning-and-teaching-theory-guide/deep-and-surface-approaches-learning.html>

<http://allthingslearning.wordpress.com/tag/real-learning/>

j.b.m.kuks@umcg.nl



Learning



Many Students, many learning styles.

Offer a variety!



Learning



Different Cultures -> Different Learning Styles

Adoption may need Adaption



Testing



Students do not learn what is expected
but what will be inspected

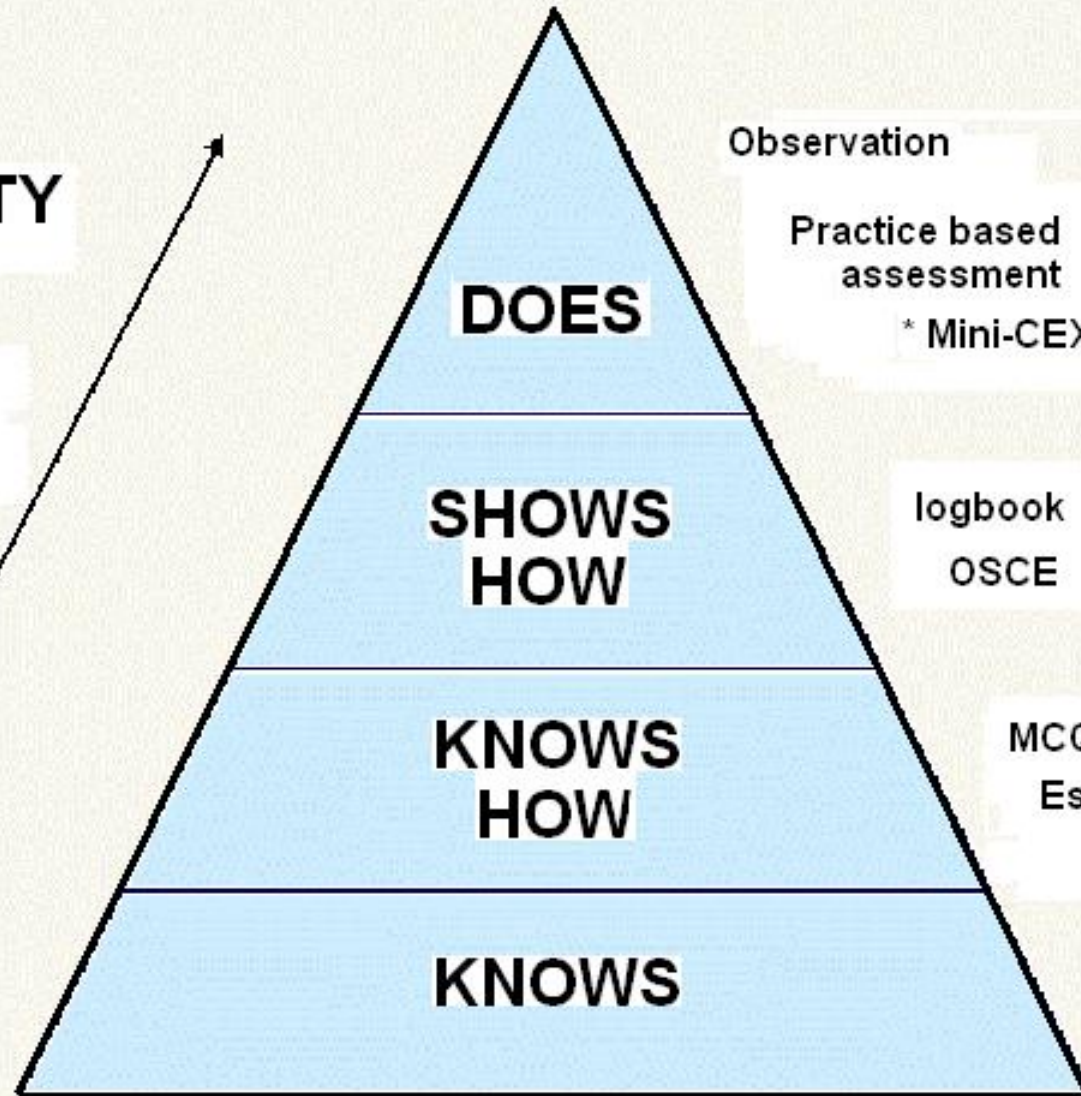
Make clear what will be tested,
describe a core curriculum!!



VALIDITY



Miller 1990



Observation

Practice based
assessment
* Mini-CEX

logbook
OSCE

MCQ
Essay

MCQ
Essay



	Objectivity	Reliability	Validity	Feasibility	Cost
• MCQ	+++	+	+	+	±
• Essay	±	-	±	±	±
• SAQ	±	+	+	+	±
• Oral Exam	-	±	+	±	-
• OSCE	±	+	+	-	-
• Observation	±	-	+	+	±
• MSF	+	±	+	-	±
• Portfolio	±	-	±	±	±
• Logbook	+	?	±	+	±



Medical Expert Health Advocate Professional
 Communicator Manager Scholar
 Collaborator

MCQ/SAQ	+++	+	++	++	+	++	+
Essays	++	+	+	+++	+	+	+
Oral Exam	+++	+	+	+	-	-	+
Direct Obs	+++	+++	+++	+++	+++	+++	+++
OSCE	+++	+++	+++	++	-	-	+
MSF	++	+++	+++	+++	+++	++	+++
Portfolio	++	++	+	+++	++	+++	+++
Simulations	+++	+	+++	-	++	-	++

Take Home



What's an adequate medical expert?

-> Standards to be met in education.

Competence is more than Knowledge alone.

-> Education should be plurifocal.

Times, Patients, Students, Insights change

-> Education as well.

Many tools and methods exist.

-> Make your choice, use a variety.

Difference in individuals, differences in cultures.

-> Education should be flexible.

Some Literature

Teaching the next generation.

Elkind MSV, *Neurology* 2009; 72: 657-663

Teaching evidence-based clinical practice.

Burneo JG et al., *Clin Neurol Neurosurg* 2007; 109: 418-421

Quality improvement in neurology residence programs.

Bradley WG et al., *Neurology* 1997; 49: 1205-1207

Neurology training around the world.

Hooker J et al., *the Lancet Neurology* 2003; 2: 572-579

Evaluating a formal evidence-based clinical practice curriculum.

Burneo JG et al., *J Neurol Sci* 2006; 250: 10-19

Defining and assessing professional competence.

Epstein RM et al., *JAMA* 2002; 287: 226-235

Core competencies in neurology resident education.

Larson Peltier W, *the Neurologist* 2004; 10: 97-101



“The future
belongs
to those
who prepare
for it today.”

—Malcolm X

