

# Develop your Faculty!

## Why?

### Lessons from Medical Schools

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# Overview

- Development of medical education
- Faculty development in medicine
- Faculty development at UMC Utrecht

# Medical education developments

1. Developments in 19-20th century
2. *SPICES* as ingredients
3. More recent developments

# UNIVERSITY EDUCATION OF DOCTORS





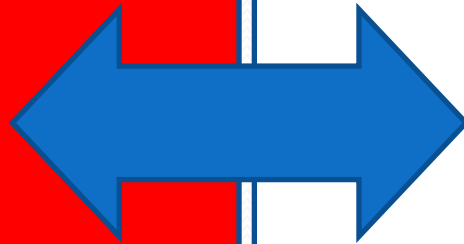
# PRACTICAL TRAINING IN THE WORKPLACE



# Current medical curricula: merge of theory and practice from 19th century

**UNIVERSITY  
EDUCATION**

**PRACTICAL TRAINING  
IN THE WORKPLACE**



# Milestones in the 20th century

- **Scientific foundation** for training of doctors
- Increase of **specialities**
- **Increase length** of training
- Introduction of **objectives** for medical training
- **Integration** of disciplines for sake of education
- Addition of **clinical skills** training
- Use of the **computer and the internet**
- **Competency-based curriculum** modelling



# SPICES in your meal

## Traditional

Teacher-centered

Information-centered

Discipline-based

Hospital-based

Uniform

Opportunistic clinical ed.

## Innovative

**S**tudent-centered

**P**roblem-based

**I**ntegrated

**C**ommunity-based

**E**lectives

**S**ystematic cl. ed.

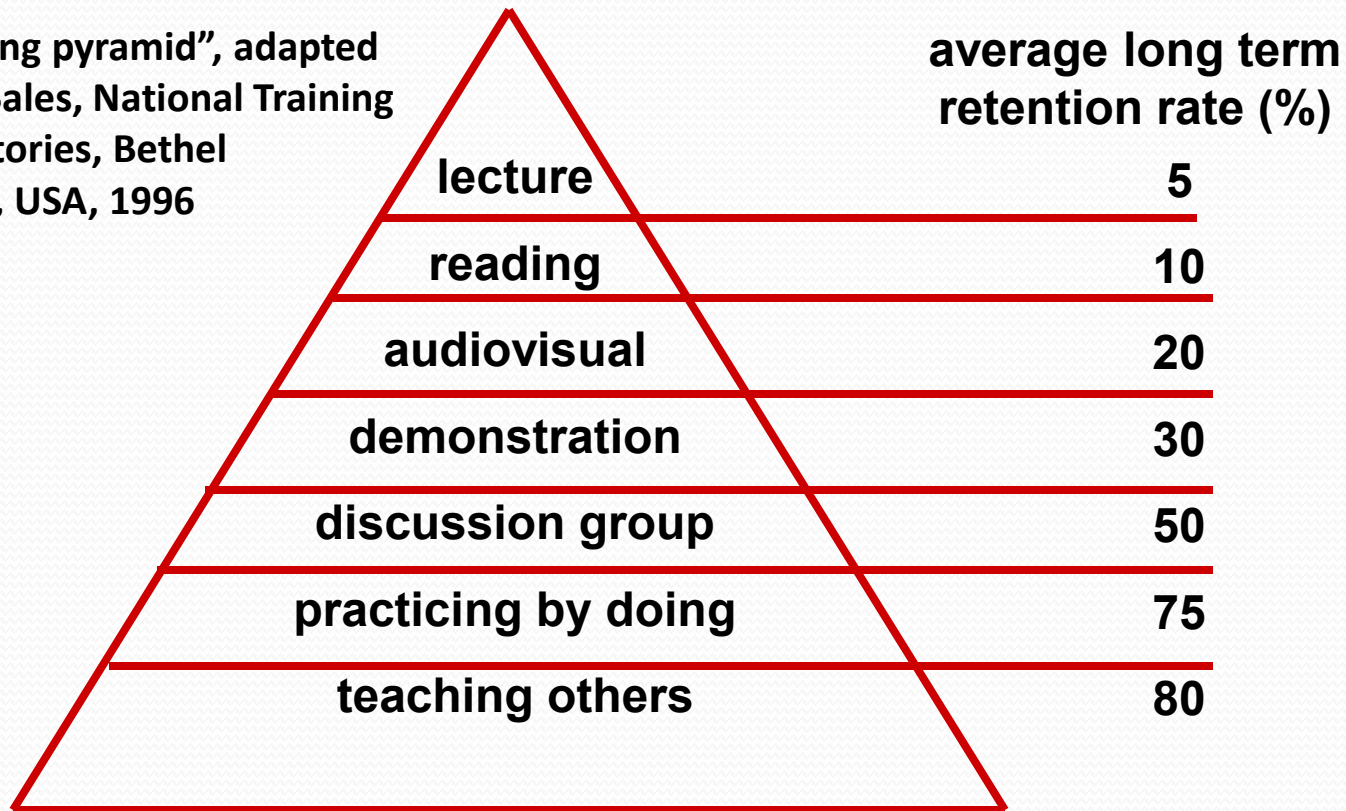


# Student centered education

- Teaching is worthless if students do not learn
- The first question: *what makes students learn?*
- Lecturing doesn't help if “notes from lecturer arrive in students' notebooks without passing either brains”
- Learning is a active process – education should activate students

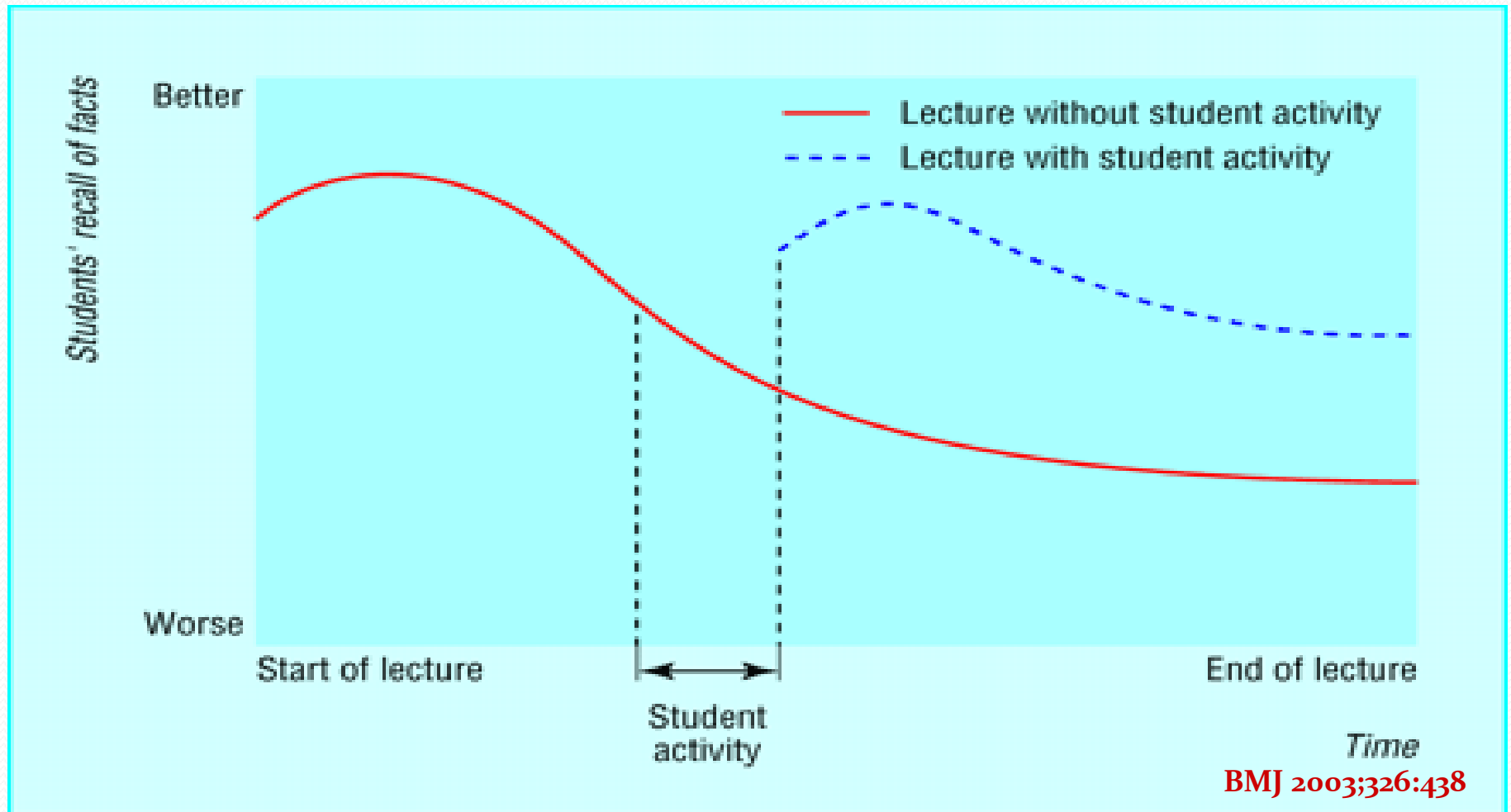
# From *Passive listening* to *Active learning*

“Learning pyramid”, adapted from: Bales, National Training Laboratories, Bethel Maine, USA, 1996



*NB! Often used, but not (yet) evidence-based. However – high face validity*

# From *Passive listening* to *Active learning*



# Problem-based education

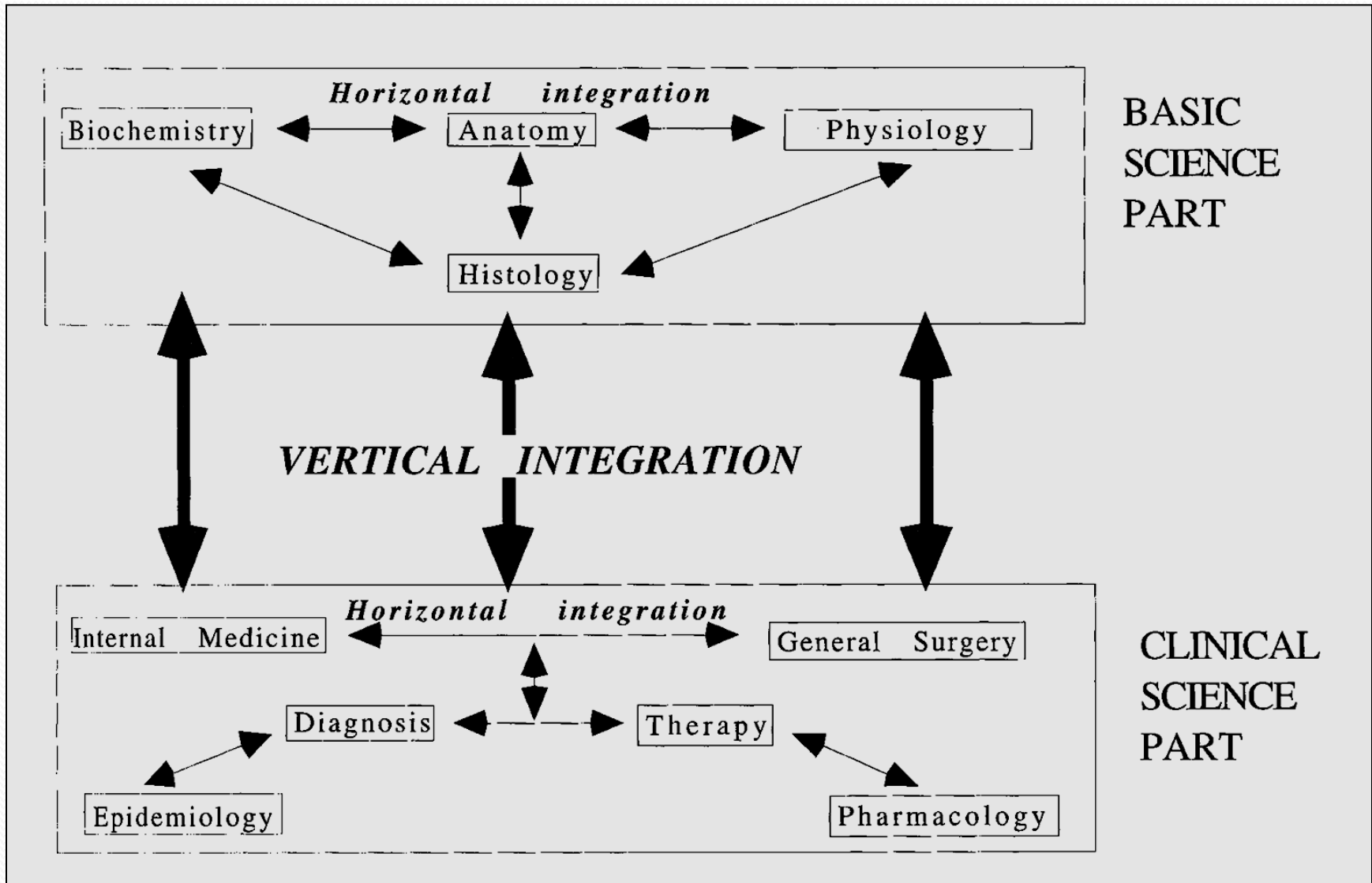
- Theory says: problems stimulate active learning in adults
- Adults often acquire new knowledge just because they need it to solve problems
- Consistent finding: students enjoy problem-based learning better than traditional education
- Problem-based education: small groups meeting 2-3 times a week, work on pre-structured problems

# Integration

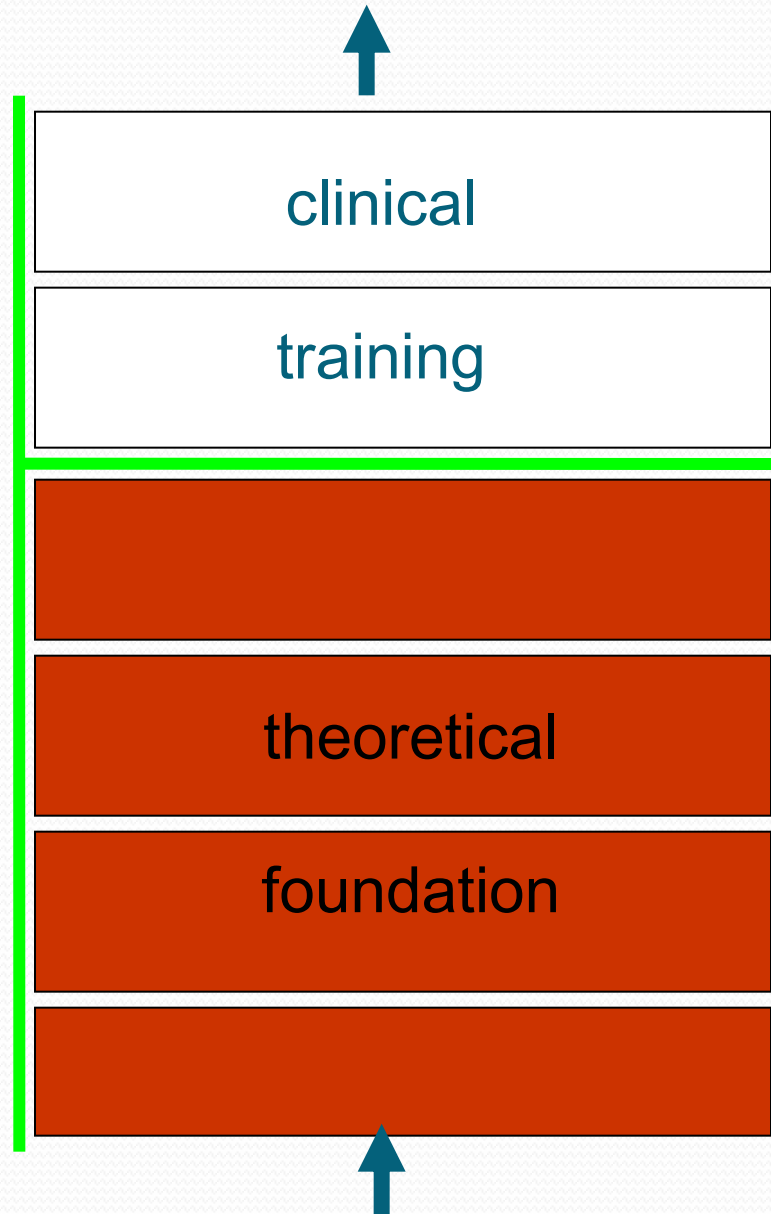
- Objectives-based education (versus discipline based) asks for integration of information
- Patients do not present as disciplines; students need to combine information from different disciplines
- Teach the *heart and circulation* several times separately? (anatomy, physiology, pathology, internal medicine, cardiology, cardiosurgery).
- Or devise a problem-based, integrated module “heart and circulation”?



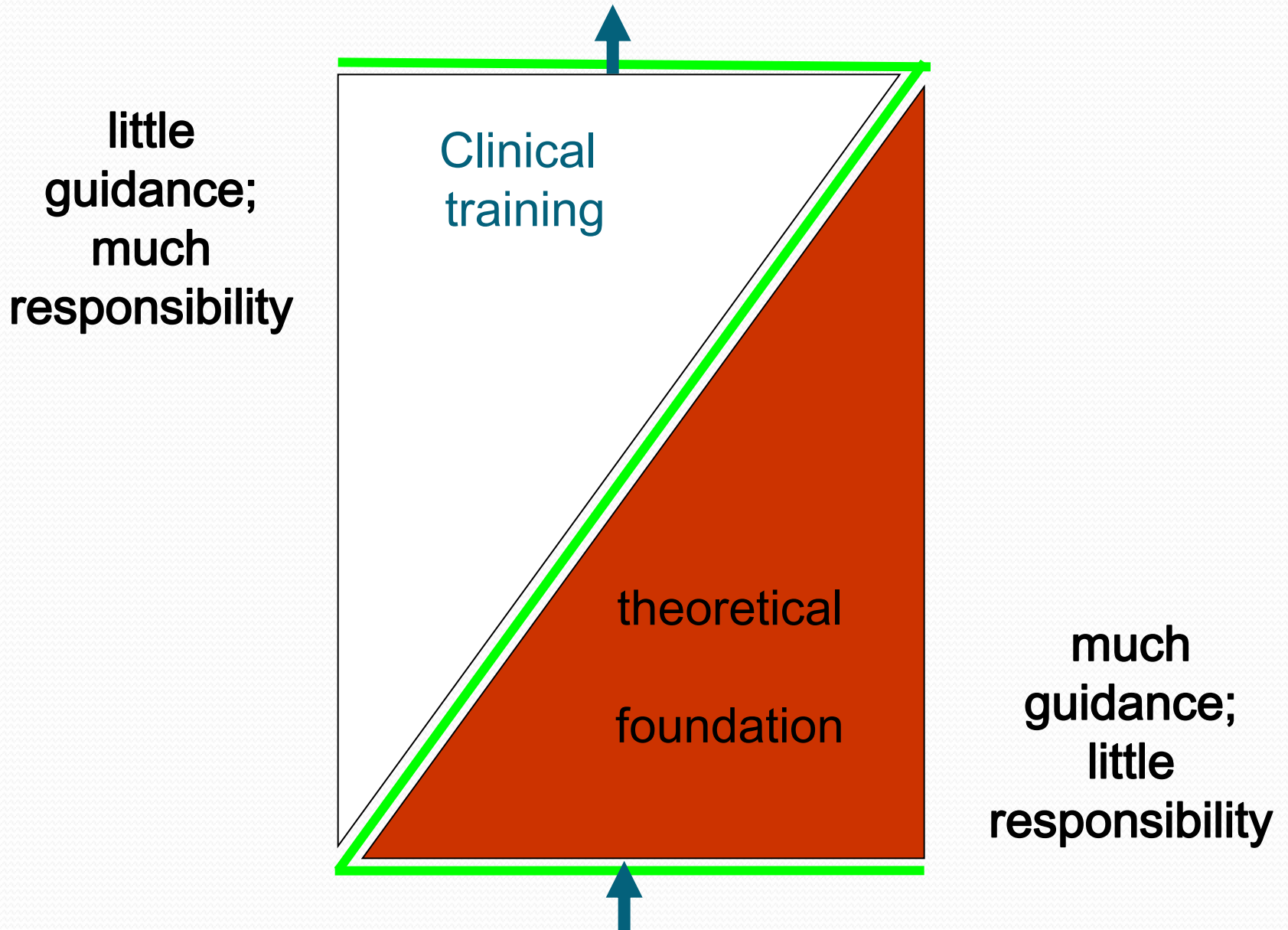
# Horizontal and vertical integration



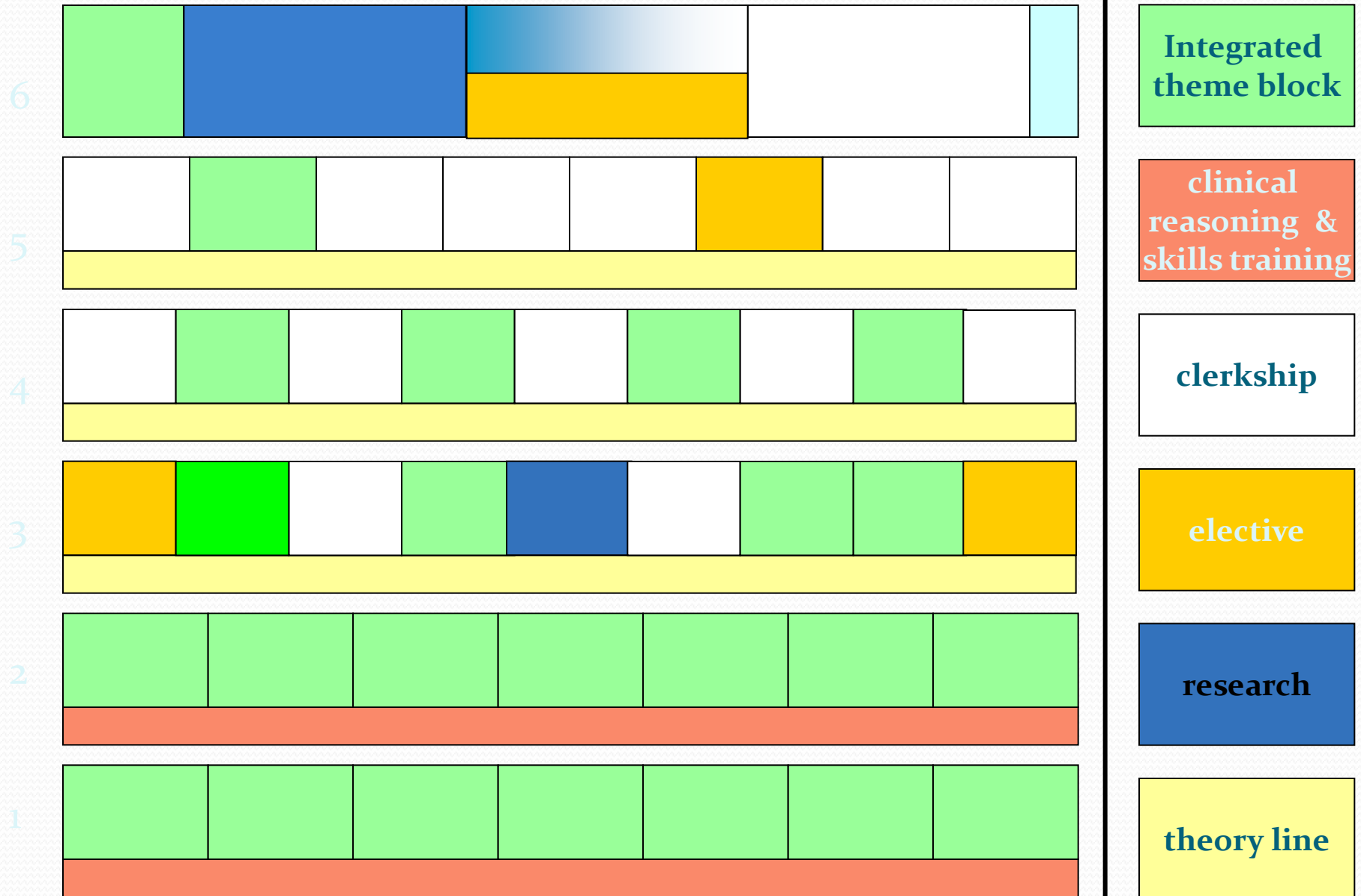
# Example: Dutch curricula, developing from H to Z structure



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# The Utrecht 6 year medical course



# Community based objectives

- Focus on health care needs of society
- University medical centers have become highly specialised hospitals for rare pathology
- Much of health care is ambulatory or in general hospitals. Significant training must take place here.



# Electives

- To stimulate student motivation
- To serve personal profiling of students
- Clinicians observe and select future colleagues
- Often electives have a research nature
- 10% of curriculum time can easily be electives

# Systematic clinical education

- Objectives for workplace learning
- Scheduled observations
- Portfolio to document progress
- Assessments including 'soft' facets of competence (collaboration, communication, behavior)
- Multisource (360 degree) feedback
- Rigorous skills training and deliberate practice in procedural specialties



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# In addition

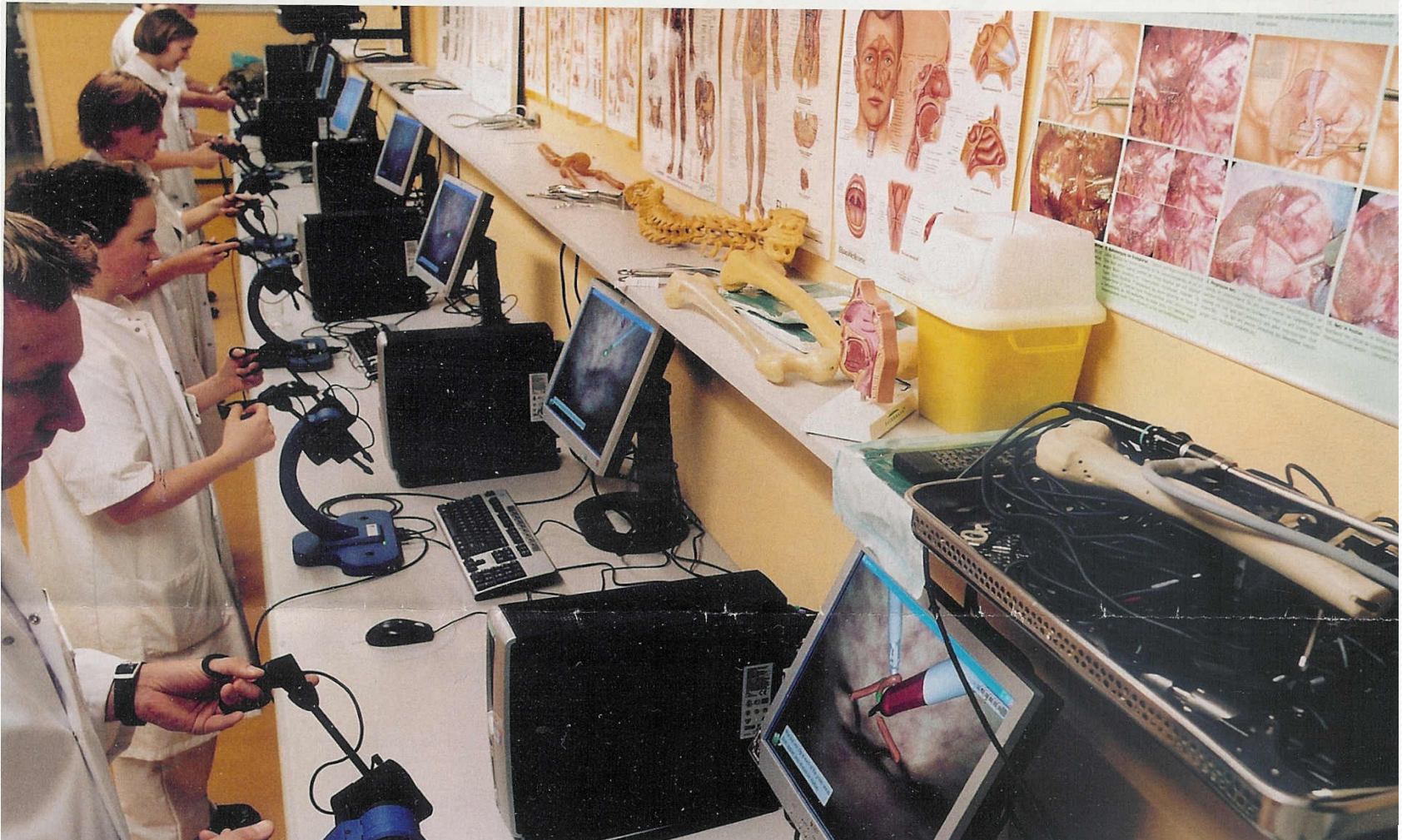
- Technology
- Research skills
- Assessment
- Competency-based education



# Technology

- Technology is ubiquitous - not a choice, but unavoidable
- Simulation of health care for training and assessment carves its place in education
- Internet rapidly replaces other sources
- 'Experts', teachers, doctors loose their knowledge monopoly

# Training laparoscopic surgery skills with virtual reality

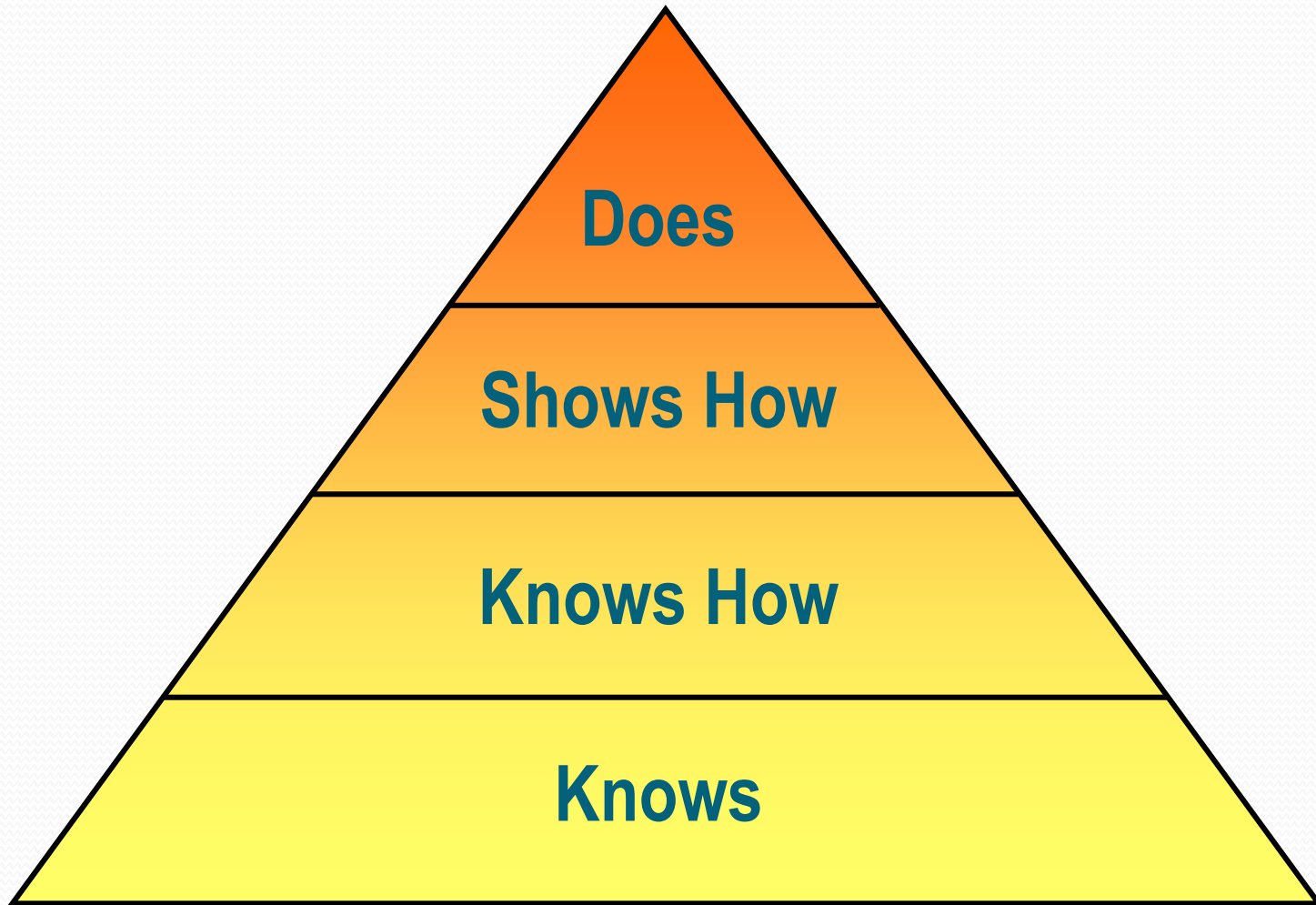




# Clinical exam at Northwestern University, Chicago



# Miller's Pyramid: Four levels of assessment



# Assessment innovations

- New question formats
- Progress testing
- Objective structured clinical examination (OSCE)
- Computer-based testing
- Direct observation in practice (miniCEX, DOPS)
- New approaches ahead for clinical competence assessment

# Competency-based education: From *input* to *outcome*

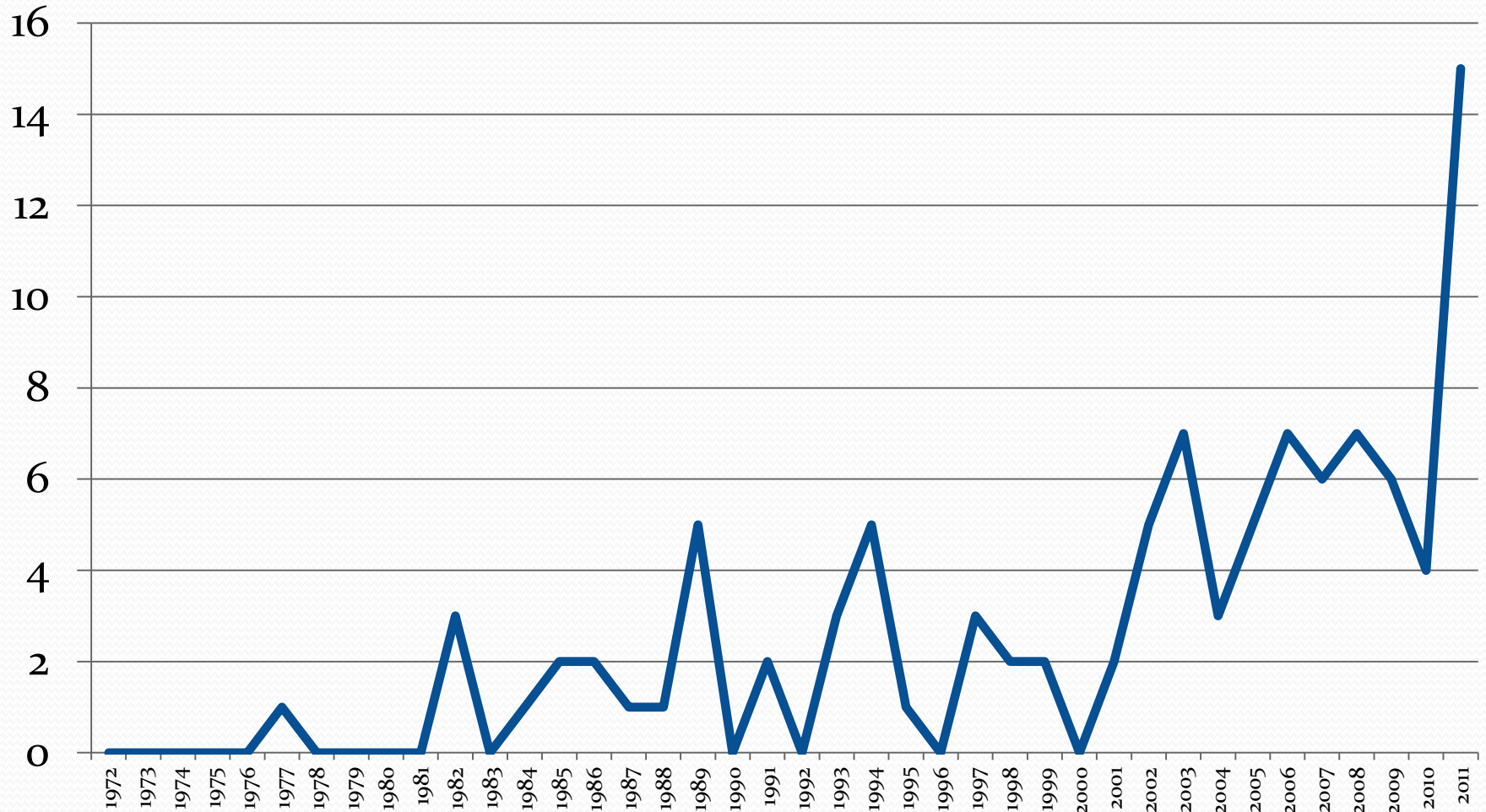
- Objectives should reflect the **needs of society**
- Objectives should meet **international standards**
- Not: **How much should we teach?** (input) but **What competencies should graduates have?** (outcome)
- Don't graduate trainees "because they spent required X time in training"
- Graduate them only "**when you can trust them** to carry out all essential professional activities"
- The model of "**Entrustable Professional Activities**"

# Faculty Development

- Faculty development in all modern medical schools, to train teachers
- Over 25 international journals in med education
- Research of medical education has grown explosively in past decades
- Annual AMEE conference: about 3000 delegates
- Netherlands Association for Medical Education (40 years, 1200 members)
- Annual Dutch Med Ed conf: about 900 delegates
- + many more conferences



# Dutch PhD dissertations in medical education





# Faculty development at UMC Utrecht

## Students

- 30 students /yr receive “Student Teaching Certificate”

## Teachers

- Basic Teaching Qualification (for all teachers)
- Senior Teaching Qualification (for teaching career)
- Associate Professor of Teaching (recently started)
- Professor of Medical Education (5 at UMCU)

# Initiatives at UMCU

- 1 week teacher training course for all medical students
- 6 week Teaching Rotation elective for M3 students
- Courses/workshops for teaching in UGME
- Teach-the-teacher courses/workshops for PGME
- University course for Excellence in Teaching
- International Medical Educator's Exchange (IMEX) program (UMCU/Karolinska U/McGill U/Dalhousie U/ St Georges London U)
- [Plan: 2 year 1 day/wk Teaching Scholars Programme]

## In sum

- Education is a living, dynamic, adaptive process
- The world changes – curricula must change
- No one curriculum in the world is perfect
- Continuous search for improvement through quality cycles and benchmarking helps
- When education becomes routine, it tends to lose quality. Change can motivate.
- Faculty development is necessary



