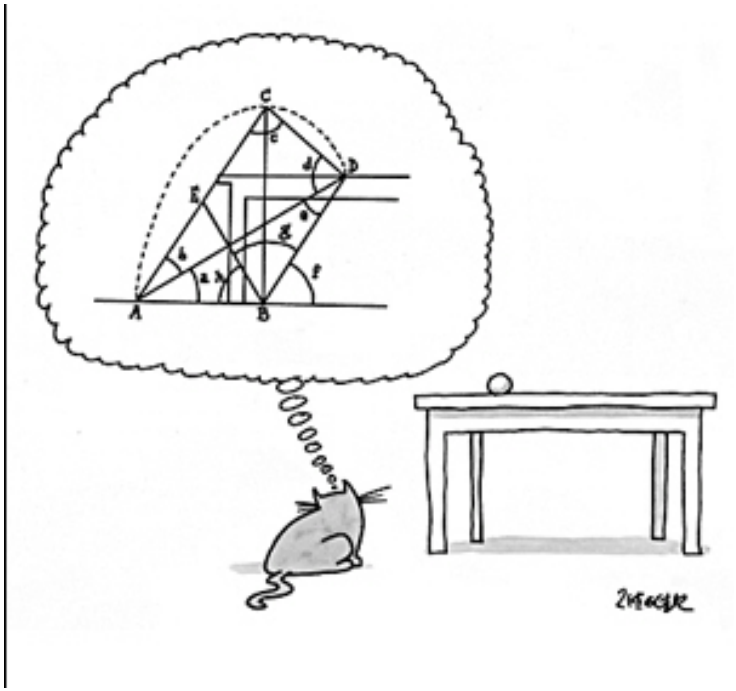
# ZNANSTVENI VIDIKI POUČEVANJA

# Prva zmota medicinskega izobraževanja



Izobraževanje nima znanstvene podlage ali teorije

# O čem bom govoril

- Teoretični okvir
- Pregled nekaterih raziskav
- Predlog za seminar

# TEORETIČNI OKVIR

# Zakaj se ljudje učijo

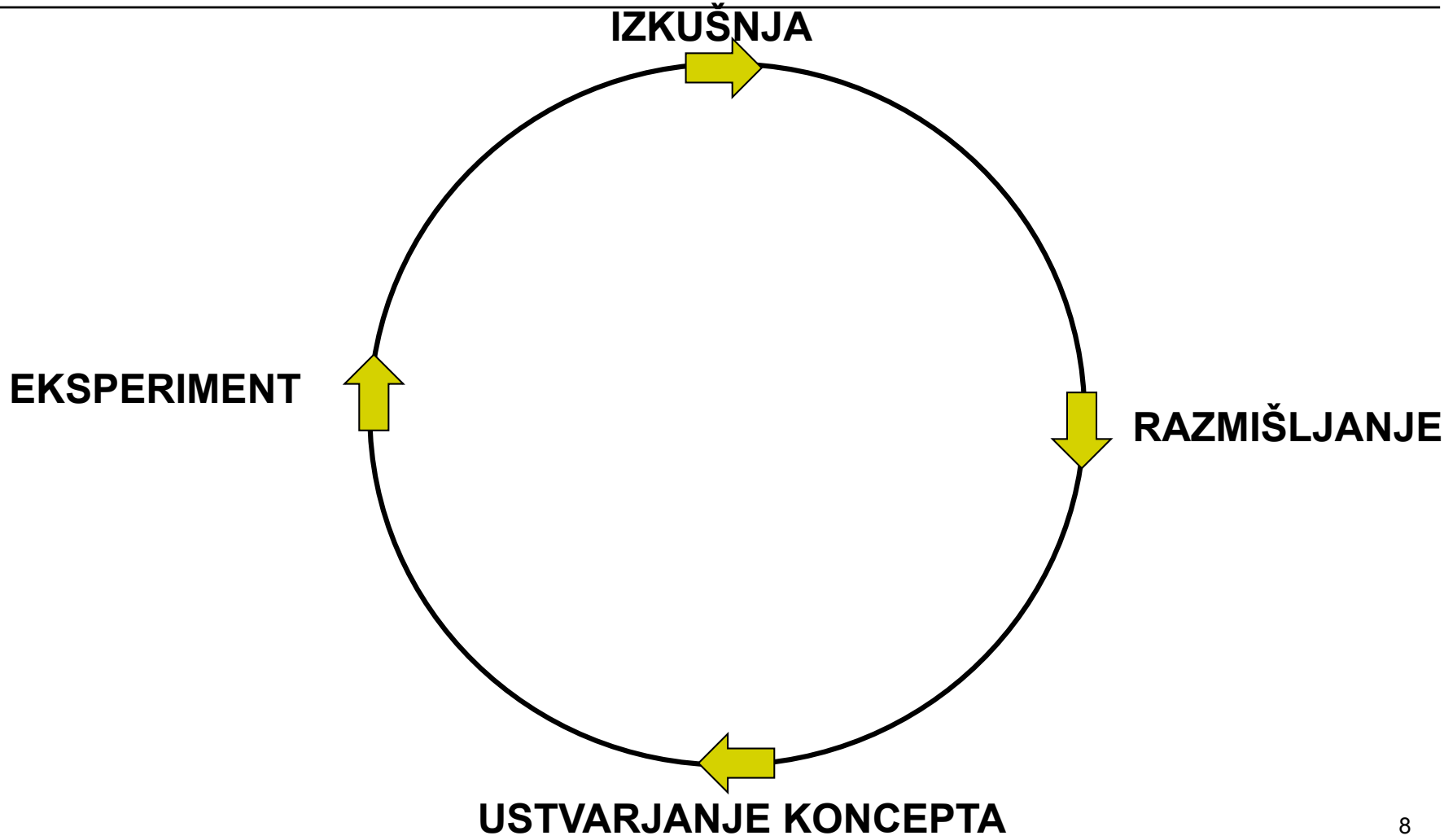
Potreba po učenju je ena temeljnih človekovih potreb, je gibalo človekovega razvoja, ki je vsakemu človeku prirojena. Dober učitelj zna vzpodbuditi to potrebo, slab jo zatre.

| Človeške potrebe *(Maslow)* | Edukacijski imperativi *(Neighbour)* |
| --- | --- |
| Potrebe po dokazovanju | Samostojnost |
| Potrebe po spoštovanju /ugledu/ | Samopoštovanje |
| Potreba po pripadnosti | Prepoznavanje |
| Potreba po varnosti | Zaupanje |
| Fiziološke potrebe | Varnost |
| | Obstoj |

# KAKO SE UČIMO

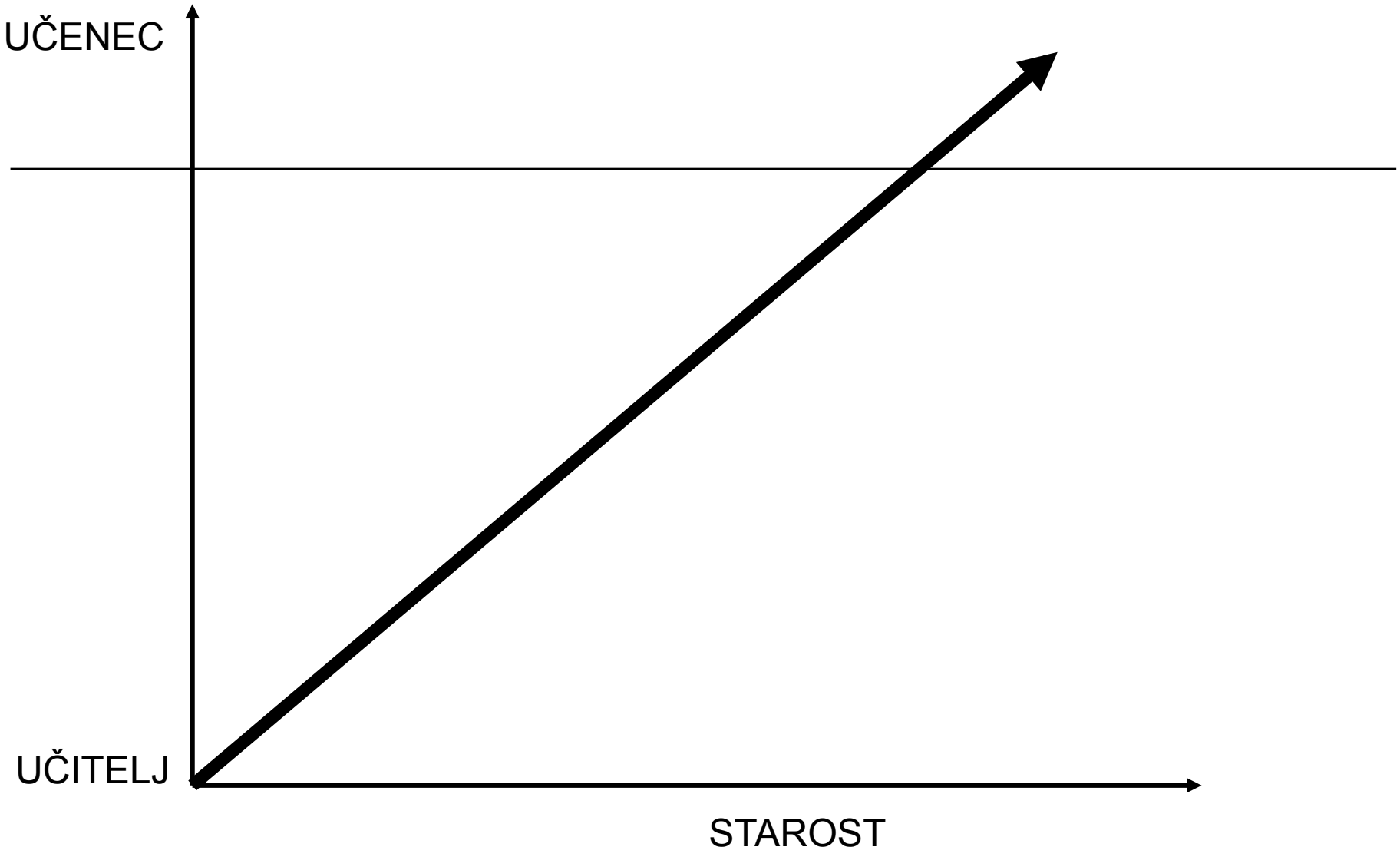
- Ljudje se učijo sami, če jim damo pravo informacijo pravočasno, na pravi način, in na pravem mestu
- Radovednost je gibalo civilizacije

# Obrazec učenja (Kolb)



# PEDAGOGIJA IN ANDRAGOGIJA

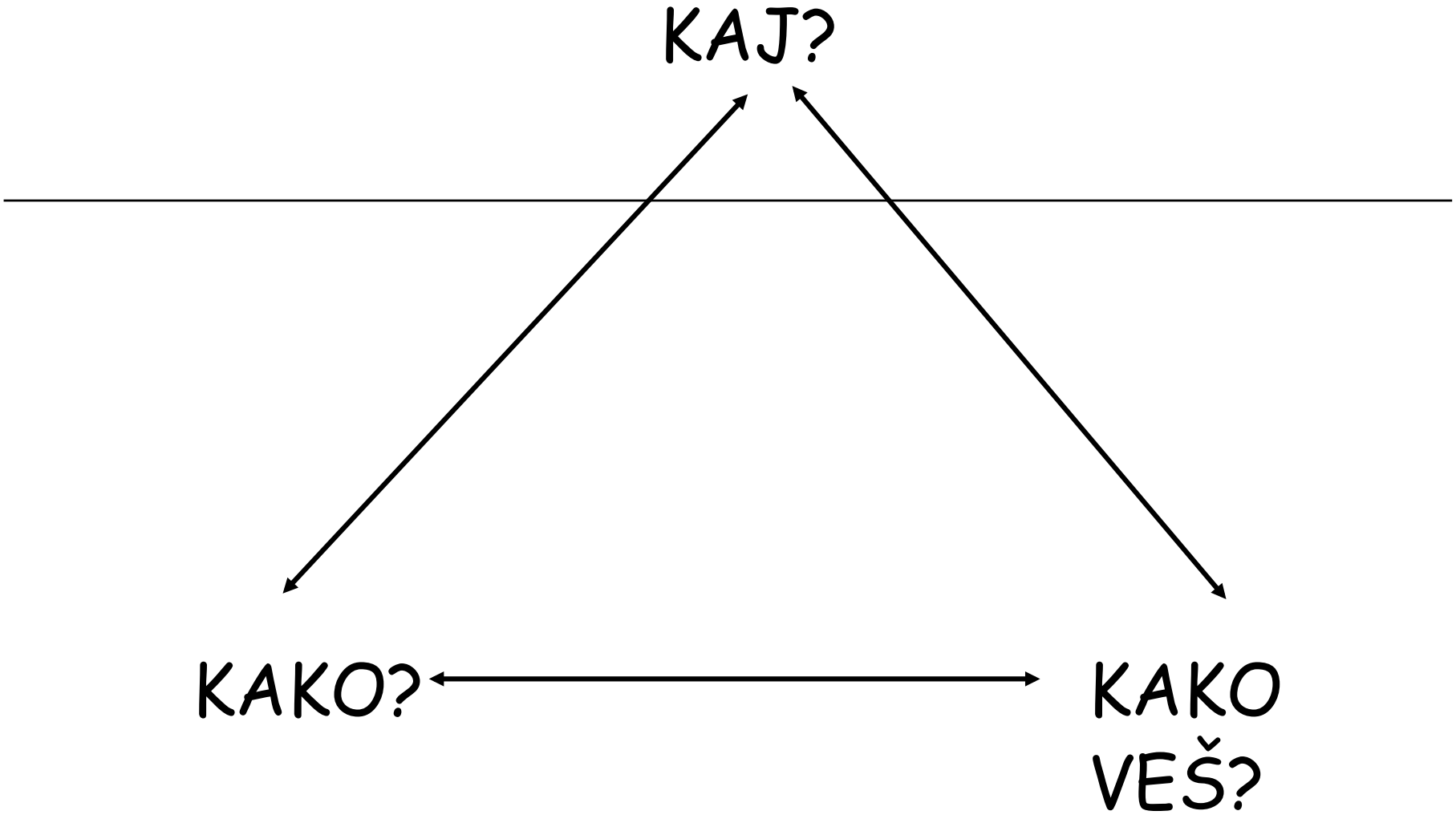
Odrasli se učijo drugače od otrok

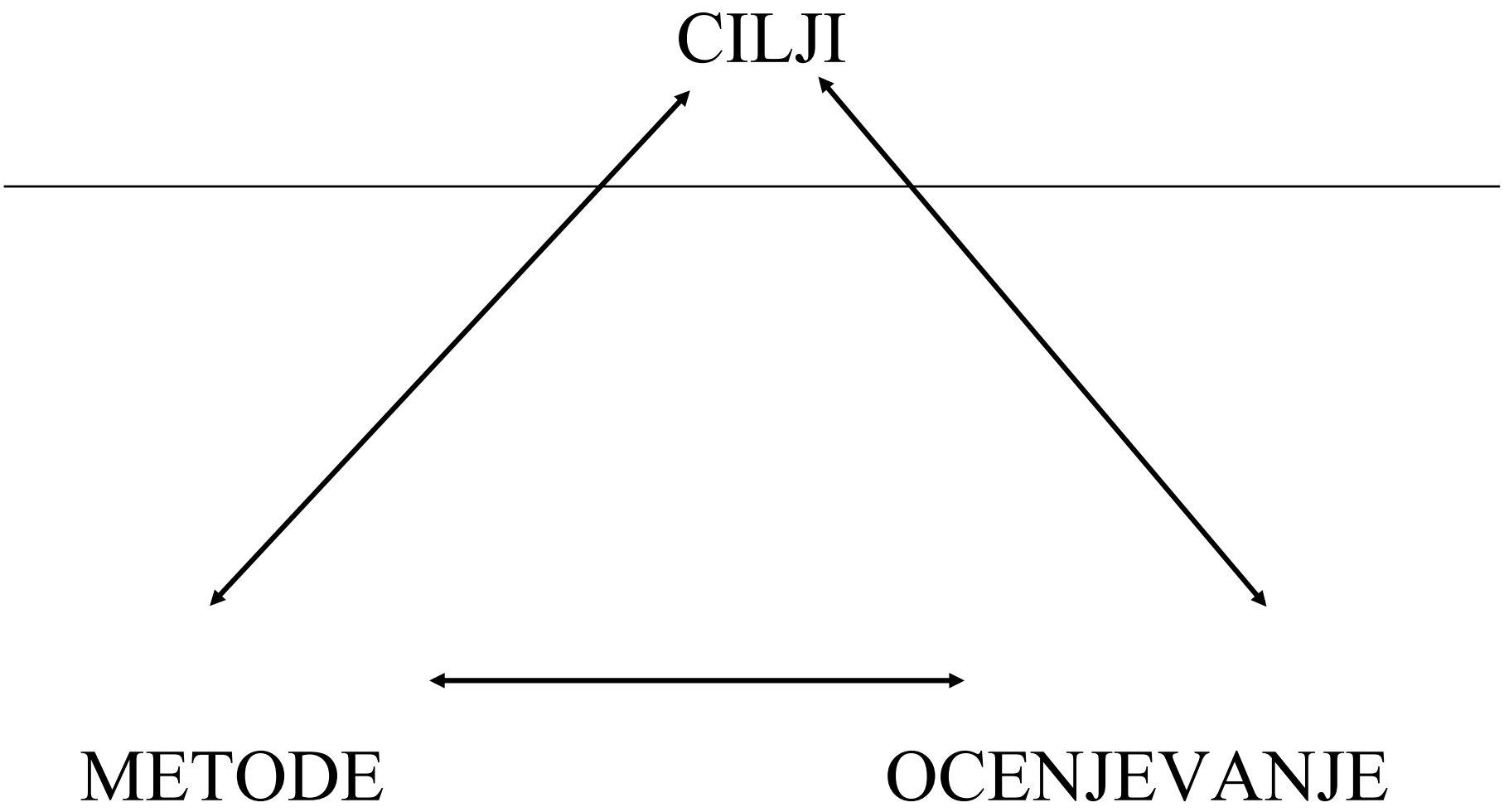

UČENEC
UČITELJ
STAROST

# ELEMENTI

# ELEMENTI

- Kaj bomo učili?
- Kako bomo to naredili?
  - Kdaj?
  - S kom?
  - S čim?
- Ali smo to naredili prav?


KAJ?
KAKO?
KAKO VEŠ?


CILJI
METODE
OCENJEVANJE

| Objectives | Learning Methods | Assessment Tools |
|---|---|---|
| Understand the health needs of communities through epidemiological characteristics of the population | Conventional classroom method<br>Seminar<br>Small group discussion<br><br>Visiting health and social care institutions<br>Audit<br>Project<br>Field work | MCQ,MEQ<br>Written & oral examination<br>Patient or project presentation by tutor<br><br>Report<br>Report<br>By work-based teacher |

# CILJI

# Opredelitev ciljev

- Cilji se delijo na:
  - Znanje
  - Veščine
  - Stališča

# ZNAČILNOSTI DOBRIH CILJEV

- Validnost: odražajo bodočo vsebino dela
- Relevantnost za učenca
- So rezultat temeljitega razmišljanja o vsebini in pomenu stroke

# KAKO ZNANSTVENO PRISTOPITI K OBLIKOVANJU CILJA

- Običajno so cilji “sami po sebi razumljivi”
- Včasih so problem
  - Kompleksni predmeti s širokim področjem
  - Obsežni programi
- Običajno je potreben konsenz stroke

# PRIMER ZAPLETENEGA CILJA

- ***Namen študija medicine na medicinski fakulteti je izobraziti diplomanta, da se bo sposoben vključiti v delo zdravnika in nadaljnji proces samostojnega in vodenega izobraževanja na področju medicine v katerikoli izmed medicinskih specialnosti.***

- Kakšno bo delo zdravnika čez 10-50 let?
- Katere so tiste splošne resnice, ki jih mora znati vsak zdravnik, ne glede na kasnejšo specialnost?
- Katere so tiste veščine, ki jih mora študent pridobiti sedaj, da mu bodo koristile nadaljnjih 10-50 let?

# PRIMERI RAZISKAV

- Potrebnost zgodnjega stika z bolnikom v študiju medicine
- Definiranje ciljev edukacije za področje družinske medicine

# What can experience add to early medical education? Consensus survey

Tim Dornan, Chris Bundy

## Abstract

**Objective** To provide a rationale for integrating experience into early medical education ("early experience").
**Design** Small group discussions to obtain stakeholders' views. Grounded theory analysis with respondent, internal, and external validation.
**Setting** Problem based, undergraduate medical curriculum that is not vertically integrated.
**Participants** A purposive sample of 64 students, staff, and curriculum leaders from three university medical schools in the United Kingdom.
**Results** Without early experience, the curriculum was socially isolating and divorced from clinical practice. The abruptness of students' transition to the clinical environment in year 3 generated positive and negative emotions. The rationale for early experience would be to ease the transition; orientate the curriculum towards the social context of practice; make students more confident to approach patients; motivate them; increase their awareness of themselves and others; strengthen, deepen, and contextualise their theoretical knowledge; teach intellectual skills; strengthen learning of behavioural and social sciences; and teach them about the role of health professionals.
**Conclusion** A rationale for early experience would be to strengthen and deepen cognitively, broaden affectively, contextualise, and integrate medical education. This is partly a process of professional socialisation that should start earlier to avoid an abrupt transition. "Experience" can be defined as "authentic human contact in a social or clinical context that enhances learning of health, illness or disease, and the role of the health professional."

**The European definitions of the key features of the discipline of general practice: the role of the GP and core competencies.**

Justin Allen, Bernard Gay, Harry Crebolder, Jan Heyrman, Igor Švab, and Paul Ram

EURACT
European Academy of Teachers in General Practice

**The European definitions of the key features of the discipline of general practice: the role of the GP and core competencies.**
Justin Allen, Bernard Gay, Harry Crebolder, Jan Heyrman, Igor Švab, and Paul Ram

- Kvalitativna raziskava:
  - Brainstorming v skupini strokovnjakov
  - Sistematičen študij literature
  - Delov skupinah
  - Izdelava dokumenta
  - Tehnika nominalne skupine (konferenca)
  - Sprejetje definicije

- Slabosti
  - Metodologija ni bila eksplicitna
  - Ni bilo objavljeno v ugledni reviji
- Prednosti
  - Sprejeta v praktično vseh evropskih državah

# METODE

# PRIMERI METOD

- Predavanja
- Seminarji
- Vaje
- Domače naloge
- Samostojno učenje
- Predstavitev bolnika
- Igranje vlog
- Video
- Delo na oddelku, ambulanti, laboratoriju
- Vodene debate
- Računalniške simulacije
- Itd.

# Značilnosti dobrih metod

- Ustrezna metoda za ustrezen cilj
- Pritegnejo učence k sodelovanju
- Fleksibilnost
- Raznovrstnost

# PRIMER

- Namen vaje je naučiti študenta, da bo znal pravilno izmeriti krvni tlak in interpretirati izmerjeno vrednost

- Predavanje o pravilni meritvi
- Demonstracija v majhni skupini
- Vaje študentov eden na drugem
- Vaje na oddelku
- Delo pod nadzorom

# PRIMERI RAZISKAV

- Ali je počitniška praksa dovolj za učenje družinske medicine?
- Uporaba računalnikov v izobraževanju

**Why an attachment to general practice is not an adequate substitute for a structured programme: a qualitative approach**

**Authors:** Igor Švab [a]; Tonka Poplas Susič

- The Leeuwenhorst definition of the work of the general practitioner represents the gold standard for educational aims in general practice. The majority of educational programmes in Europe have developed from unstructured attachment, towards structured experiences in practice. The question arises as to what kind of educational aims students achieve by being attached to a general practitioner without a structured programme. A total of 166 reports from attachments in general practice were analysed in a qualitative way. The keywords describing the necessary skills of the general practitioner were used as a standard with which the reports were compared. All of the areas from the definition were identified by at least one student but overall clinical skills predominate, while communication and organizational skills were rarely identified. **Attachment to general practice is not an adequate substitute for an organized family practice curriculum** since students fail to recognize important skills necessary for the work of a general practitioner.

- Metodologija
  - Kvalitativna študija transkriptov
  - Primerjava ključnih besed v transkriptih s ključnimi besedami iz definicije
  - Iskanje neskladij

# Computer assisted learning in undergraduate medical education

Trisha Greenhalgh

12 randomiziranih kontrolnih študij s tega področja!!

Published randomised controlled trials of computer assisted learning (CAL) methods in undergraduate medical education

| Trial (country) | Aim of study | No of participants completing study | Study groups | Outcome measure | Result |
|---|---|---|---|---|---|
| Carr et al (USA)[6] | To compare a CAL programme with traditional methods in teaching management of epistaxis | 58 | (a) Pre-instruction test<br>(b) CAL programme<br>(c) Small group seminar | Performance on written and practical assessment | No significant difference between groups |
| D'Alessandro et al (USA)[7] | To compare a CAL textbook with lecture, printed textbook, and no textbook as a supplement to the paediatric course | 83 | (a) Multimedia textbook<br>(b) Supplementary lectures<br>(c) Printed textbook<br>(d) "Control group" | Performance on written assessment at end of placement and one year later | Multimedia textbook group performed significantly better than other groups in end of firm assessment but this difference was not sustained at one year. |
| Devitt et al (Australia)[4] | To compare different CAL methods with classroom teaching in anatomy teaching | 90 | (a) CAL (didactic)<br>(b) CAL (problem based)<br>(c) CAL (free text response)<br>(d) Face to face teaching | Performance on written assessment | Students in CAL (didactic) group performed significantly better than the other three groups |
| Elves et al (UK)[8] | To compare CAL plus classroom teaching with classroom teaching alone in urology | 26 | (a) Classroom teaching of urological topics<br>(b) Classroom teaching plus CAL package | Performance on multiple choice assessment | Classroom plus CAL group performed significantly better than classroom alone group |
| Hilger et al (USA)[9] | To compare a CAL programme with no instruction in teaching management of streptococcal pharyngitis | 77 | (a) CAL instruction programme on strep pharyngitis<br>(b) No intervention | Performance on MCQ assessment | CAL group scored significantly higher in post intervention assessment |
| Kallinowski et al (Germany)[10] | To compare a CAL programme with a lecture in teaching management of radial fracture | 150 | (a) Multimedia CAL package with video clips and detailed clinical information<br>(b) Lecture | Various measures of student satisfaction | CAL group rated the learning experience 15%-20% better than lecture group |
| Lyon et al (Australia)[11] | To compare a CAL programme with text based study in teaching management of anaemia and chest pain | 328 | (a) Interactive "intelligent" CAL programme using text, hypertext, images, and critiquing theory<br>(b) Printed text materials | Performance on higher order (problem solving) MCQ tests | Large,thorough study designed to address methodological criticisms of previous research. No differences in performance between groups but CAL group took 43% less time to achieve same level of competence |

# PREVERJANJE

# 5: PREVERJANJE

- Preverjanje programa
- Preverjanje študentov

# OCENJEVANJE PROGRAMOV

# METODOLOGIJA

- Ali smo dosegli cilje?
- Zadovoljstvo s programom
- Metodologije:
  - Ankete na začetku in na koncu
  - Vprašalniki o zadovoljstvu in koristnosti
  - Bolj znanstvene metode…

# PREDSTAVITEV RAZISKAV

- Ocena kurikuluma s strani študentov
- Dolgoletna analiza študija družinske medicine
- Zgodnji stik z bolnikom

# The hidden curriculum in undergraduate medical education: qualitative study of medical students' perceptions of teaching

Heidi Lempp, Clive Seale

**Objective** To study medical students' views about the quality of the teaching they receive during their undergraduate training, especially in terms of the hidden curriculum.
**Design** Semistructured interviews with individual students.
**Setting** One medical school in the United Kingdom.
**Participants** 36 undergraduate medical students, across all stages of their training, selected by random and quota sampling, stratified by sex and ethnicity, with the whole medical school population as a sampling frame.
**Main outcome measures** Medical students' experiences and perceptions of the quality of teaching received during their undergraduate training.
**Results** Students reported many examples of positive role models and effective, approachable teachers, with valued characteristics perceived according to traditional gendered stereotypes. They also described a hierarchical and competitive atmosphere in the medical school, in which haphazard instruction and teaching by humiliation occur, especially during the clinical training years.
**Conclusions** Following on from the recent reforms of the manifest curriculum, the hidden curriculum now needs attention to produce the necessary fundamental changes in the culture of undergraduate medical education.

## Long-term evaluation of undergraduate family medicine curriculum in Slovenia.

Svab I, Petek-Ster M

- INTRODUCTION: In 1994, as a result of curriculum reform, the Ljubljana medical school established its first department of family medicine and introduced its first curriculum of family medicine. The new subject was well accepted by the students and the medical school. Nevertheless, there was no comprehensive analysis of the curriculum during this period. OBJECTIVE: Our aims were to assess the quality of teaching based on fulfilled expectations, pre-defined learning objectives and satisfaction in a 10-year period, and to measure changes in career preference towards family medicine. METHOD: An analysis of two sets of questionnaires, routinely given to medical students in academic years 1997/1998 and 2006/2007, was made. RESULTS: Most of the students' expectations were met, and the level increased over ten years. The level of achievement of learning objectives has been high and increased over the ten-year period. Family medicine still receives high scores in students' satisfaction. Although there is evidence that the family medicine curriculum is well accepted and that it improves some of the attitudes towards family medicine, it does not influence the career choice of students. CONCLUSION: The level of achievement of learning objectives increased with the experiences of the teachers. We improved the attitude of medical students toward general practice and general practitioners. We have not been successful in influencing career choice of students, which is an objective that is probably outside our reach.

# Metodologija

- Izpolnitev študentskih anket
- Analiza rezultatov
- Primerjava z implicitnimi cilji edukacije

# Early practical experience and the social responsiveness of clinical education: systematic review

Sonia Littlewood, Valmae Ypinazar, Stephen A Margolis, Albert Scherpbier, John Spencer, Tim Dornan

## What is already known on this subject

Integrating various types of practical experience into the early years of clinical education is becoming increasingly common

This practice is strongly advocated by the UK General Medical Council, but theoretical arguments and empirical support for it are fragmentary

## What this study adds

A systematic review of research evidence published in 1992-2001 provides an inventory of educational outcomes that can be enhanced by early experience

Evidence shows early experience has a strong formative influence that can be used to foster a socially responsive career orientation.

The review gives pointers for future research effort

## Abstract

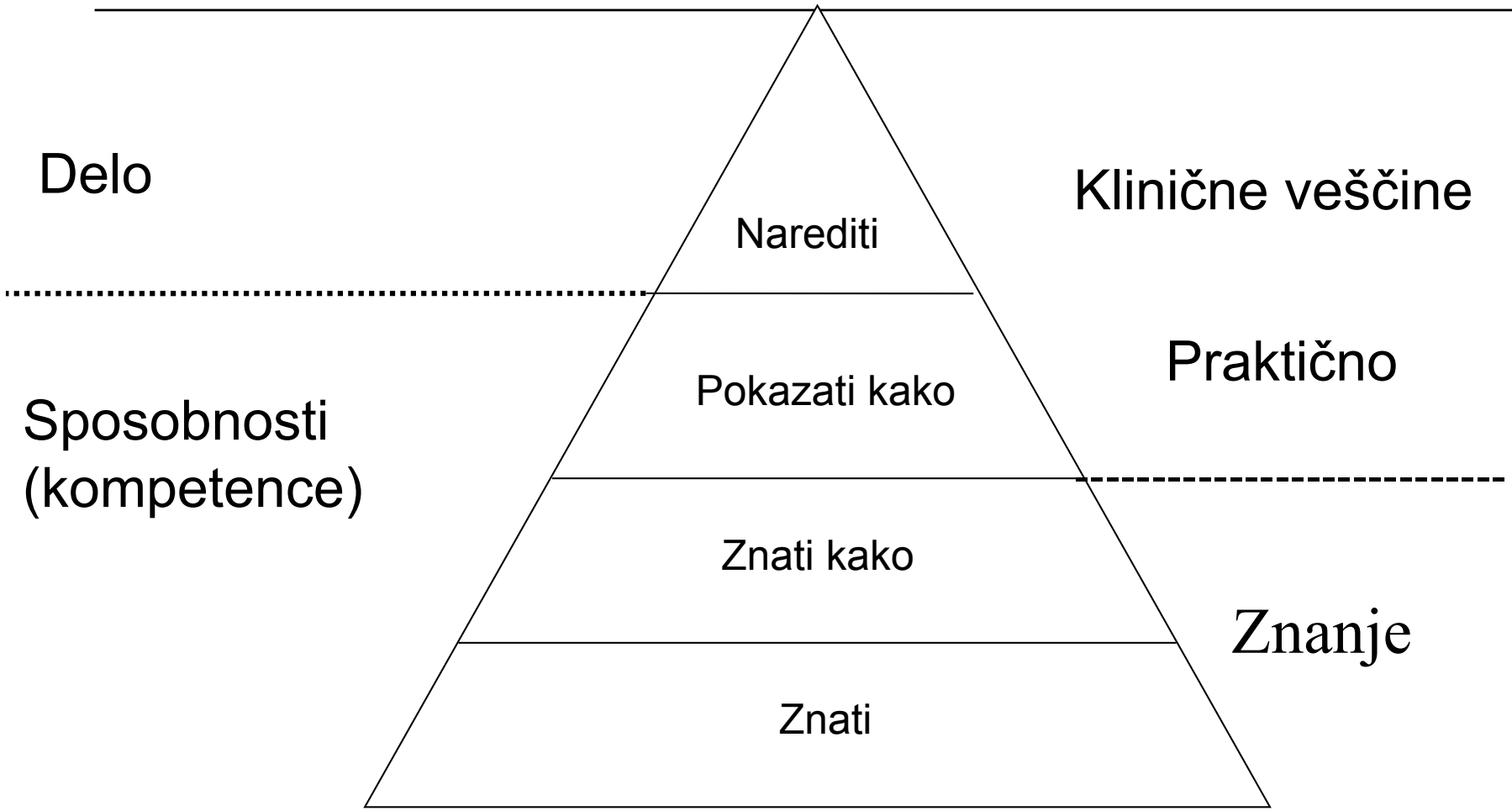
**Objectives** To find how early experience in clinical and community settings ("early experience") affects medical education, and identify strengths and limitations of the available evidence.
**Design** A systematic review rating, by consensus, the strength and importance of outcomes reported in the decade 1992-2001.
**Data sources** Bibliographical databases and journals were searched for publications on the topic, reviewed under the auspices of the recently formed Best Evidence Medical Education (BEME) collaboration.
**Selection of studies** All empirical studies (verifiable, observational data) were included, whatever their design, method, or language of publication.
**Results** Early experience was most commonly provided in community settings, aiming to recruit primary care practitioners for underserved populations. It increased the popularity of primary care residencies, albeit among self selected students. It fostered self awareness and empathic attitudes towards ill people, boosted students' confidence, motivated them, gave them satisfaction, and helped them develop a professional identity. By helping develop interpersonal skills, it made entering clerkships a less stressful experience. Early experience helped students learn about professional roles and responsibilities, healthcare systems, and health needs of a population. It made biomedical, behavioural, and social sciences more relevant and easier to learn. It motivated and rewarded teachers and patients and enriched curriculums. In some countries, junior students provided preventive health care directly to underserved populations.

# OCENJEVANJE UČENCEV

# KDAJ?

- Končno ocenjevanje: Na koncu izobraževalnega procesa ugotavljamo, ali so cilji doseženi. Prejmejo oceno, doseženo stopnjo ali naslov.
- Sprotno ocenjevanje: Med izobraževalnim procesom ugotavljamo dotedanjo uspešnost in sposobnost za nadaljevanje.

# KAJ PREVERJAMO



# PRINCIPI DOBREGA PREVERJANJA

- Prava metoda za pravi cilj
- Uporaba večih metod
- Validnost (merimo cilje pouka)
- Pravičnost (vsi študentje so obravnavani enako)

# Pomen končnega ocenjevanja

- Za študente – Težaven, često neprijeten tek čez ovire na poti do diplome
- Za učitelje – Ena manj prijetnih aktivnosti v procesu izobraževanja
- Za javnost – Pomembna zaščita pred neusposobljenimi zdravniki

# Razlogi za končno ocenjevanje

- Izkaz o doseženi stopnji izobraževanja (diploma)
- Zahteva za vključitev v izobraževalne ustanove
- Pokazatelj znanja za nadaljnji študij
- Spričevalo o poklicni ustreznosti – odgovornost do družbe (licenca)
- Ocena uspešnosti izobraževalnega programa

# Pomen sprotnega ocenjevanja

- Informacija za študente o uspešnosti dotedanjega študija
- Odkrivanje šibkih točk v procesu izobraževanja
- Pomoč učitelju za popravo programa
- Priporočila:
  - Rezultati naj se praviloma ne upoštevajo pri končni oceni
  - Izpeljano na “human” način zagotavlja boljši odnos med učiteljem in učencem in s tem večjo učinkovitost izobraževalnega procesa
  - Vedno mora do učitelja in do študentov priti povratna informacija

# PISNE METODE OCENJEVANJA

- MCQ – Multiple Choice Questions: več ponujenih odgovorov, pravilen le eden
- Un-Q – Un-cued Questions: nesugerirano odgovarjajo – popolnoma po svoji presoji
- Esej: kratka razprava
- MEQ – Modified Essay Questions: kratka tematska vprašanja
- PMP – Patient Management Problem: imitiramo okoliščine iz prakse; postopoma rešuje probleme.

# USTNE IN PRAKTIČNE METODE

- Ustni izpit: spraševanje

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- Vlečenje listkov z vprašanji
- Praktični preizkus: opazovanje pri delu
- OSCE – Objective Structured Clinical Examination: zaporedne postaje za preizkus praktičnih veščin
- Igranje vlog bolnikov
- ACC – Assessment of Clinical Competence: z različnimi metodami preverjanje usposobljenosti za delo na delovnem mestu

# Direktne metode

- Znanje
  - MCQ
  - Esej
  - Ustno spraševanje
- Veščine
  - Praktični preizkus
  - OSCE
  - Igranje vlog
- Stališča
  - Opazovanje pri delu
  - Strukturirani intervjuji

# Indirektne metode

- Poročilo opazovalca
- Poročilo bolnika
- Pregled zapiskov, kartotek itd.
- Pregled  izvidov

| | Znanje | Tolm | Probl | Etika | Klinika | Čustva | Sporaz. |
|---|---|---|---|---|---|---|---|
| Ustne | ++ | + | +/- | - - | - - | + | + |
| Prakt. | + | ++ | ++ | + - | + | + - | + - |
| MCQ | ++ | + - | + - | - - | - - | - - | - - |
| Un-Q | ++ | + - | + - | - - | - - | - - | - - |
| MEQ | + | ++ | ++ | + - | - - | - - | - - |
| Esej | ++ | + - | + - | + - | + - | - - | - - |
| OSCE | + + | + | + - | + - | ++ | + - | + - |
| PMP | +- | ++ | ++ | +- | - - | - - | - - |
| ACC | ++ | ++ | ++ | ++ | ++ | ++ | ++ |

# Metrične značilnosti MO

- Veljavnost – stopnja, do katere z inštrumentom meritve resnično merimo tisto, kar smo želeli meriti (specifičnost)
- Zanesljivost – je izraz natančnosti, moči in ponovljivosti. Idealno je tedaj, ko so rezultati enaki, čeprav ocenjujejo različne osebe ali iste osebe večkrat
- Ustreznost – ko je vsebina ocenjevanja skladna z izobraževalnimi cilji
- Objektivnost – stopnja strinjanja med neodvisnimi strokovnjaki (eksaminatorji) o pravilnosti odgovorov na določena vprašanja

OPOMBA: To so zahteve za legitimnost ocenjevanja.

| | Veljavnost | Zanesljivost | Ustreznost | Objektivnost |
|---|---|---|---|---|
| Ustne | - - | - - | - - | - - |
| Prakt. | - | - | + | - |
| MCQ | ++ | ++ | ++ | ++ |
| Un-Q | ++ | ++ | ++ | ++ |
| MEQ | ++ | ++ | ++ | ++ |
| Esej | - | - | + | - |
| OSCE | ++ | ++ | ++ | ++ |
| PMP | ++ | ++ | ++ | ++ |
| ACC | - + | - + | + | - + |

# PRIMERI RAZISKAV

- Uspešnost preverjanja sprejemnega izpita na MF
- Vpliv feedbacka na sposobnost komuniciranja

# A generalizability study of the medical judgment vignettes interview to assess students' noncognitive attributes for medical school

*BMC Medical Education* 2008, **8:**58

- **Methods**
- A three station, Medical Judgment Vignettes interview was conducted with 29 participants and scored independently by two judges on a well-defined 5-point rubric. Generalizability Theory provides a method for estimating the variability of a number of facets. In the present study each judge (*j*) rated each participant (*p*) on all three Medical Judgment Vignette stations (*s*). A two-facet crossed designed generalizability study was used to determine the optimal number of stations and judges to achieve a 0.80 reliability coefficient.
- **Results**
- The results of the generalizability analysis showed that a three station, two judge Medical Judgment Vignettes interview results in a G coefficient of 0.70. As shown by the adjusted $E\rho^2$ scores, since interviewer variability is negligible, increasing the number of judges from two to three does not improve the generalizability coefficient. Increasing the number of stations, however, does have a substantial influence on the overall dependability of this measurement. In a decision study analysis, increasing the number of stations to six with a single judge at each station results in a G coefficient of 0.81.
- **Conclusion**
- The Medical Judgment Vignettes interview provides a reliable approach to the assessment of candidates' noncognitive attributes for medical school.

**Consultation skills of young doctors: II--Most young doctors are bad at giving information.**

Maguire P, Fairbairn S, Fletcher C.

- Forty young doctors, half of whom had had feedback training in interviewing as students, were assessed five years later. Each interviewed three patients and after being given results of examination, investigations, and diagnosis and prognosis returned to discuss them with each patient for 10 minutes. These discussions were filmed on videotape and evaluated. There was no difference between the scores of interview trained and control doctors. Though most gave simple information on diagnosis and treatment, few mentioned investigations, aetiology, or prognosis. Very few obtained and took any account of patients' views or expectations of these matters. Some young doctors do discover for themselves how best to give patients information and advice, but most remain extremely incompetent. This is presumably because they get no training as students in this important aspect of clinical practice. This deficiency should be corrected, and competence tested before qualification to practise.

## Consultation skills of young doctors: I--Benefits of feedback training in interviewing as students persist.

Maguire P, Fairbairn S, Fletcher C.

- Thirty six young doctors who as medical students had been randomly allocated to either video feedback training or conventional teaching in interviewing skills during a psychiatry clerkship were reassessed five years later.
- Each doctor interviewed one patient with a psychiatric illness and two with a physical illness. Each interview was rated independently.
- Both groups had improved since the fourth year clerkship, but those given feedback training had maintained their superiority in the skills associated with accurate diagnosis. This superiority was as evident in their interviews with physically ill patients as it was with psychiatric patients. Both groups, however, still used "closed" questions and were more reluctant to cover psychosocial problems in physically ill patients. Those trained conventionally were clinically inadequate in both these aspects and in clarifying their patients' statements. Given these lasting benefits, all medical students should have feedback training in interviewing skills.

# ZA KONEC…

# Reform of undergraduate medical teaching in the United Kingdom: a triumph of evangelism over common sense

Gareth Williams, Alice Lau

## Summary points

Traditional medical training produces doctors with a sound knowledge base that allows them to practise across a broad spectrum of medicine

Reformers aim to cut the student's factual knowledge base, while replacing traditional teaching methods with student led and problem based approaches

There is no evidence that the "new" strategies will produce better doctors, and a risk that students with inadequate knowledge will become poor clinicians

A rigorous comparison of "traditional" versus "new" curriculums is urgently needed to determine the best strategy for training doctors

# Predlog seminarja

- Naredite sistematično analizo uspešnosti modernejših metod izobraževanja
  - PBL
  - Zgodnji stik z bolnikom
  - Delo v majhni skupini
- Izberite randomizirane kontrolne študije pri študentih