

Rethinking our approach to Assessment

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Conflicts of interest: None



Ground rules...

- Opportunity to learn from each other
- Interrupt when you have questions
 - chances are someone else has the same
- A dumb question is one that was **not** asked
- everyone participates
 - I tend to pick on the back row by the way



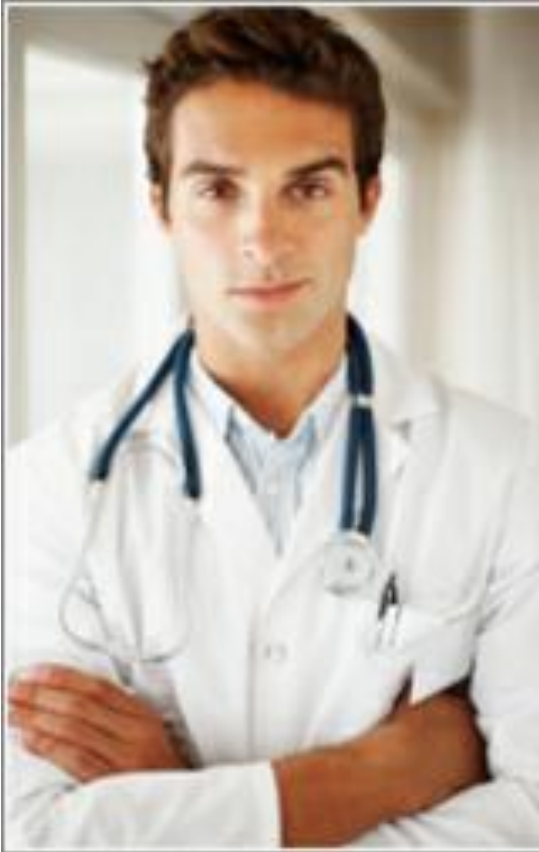
Objectives

Upon completion of this session the participant will be able to:

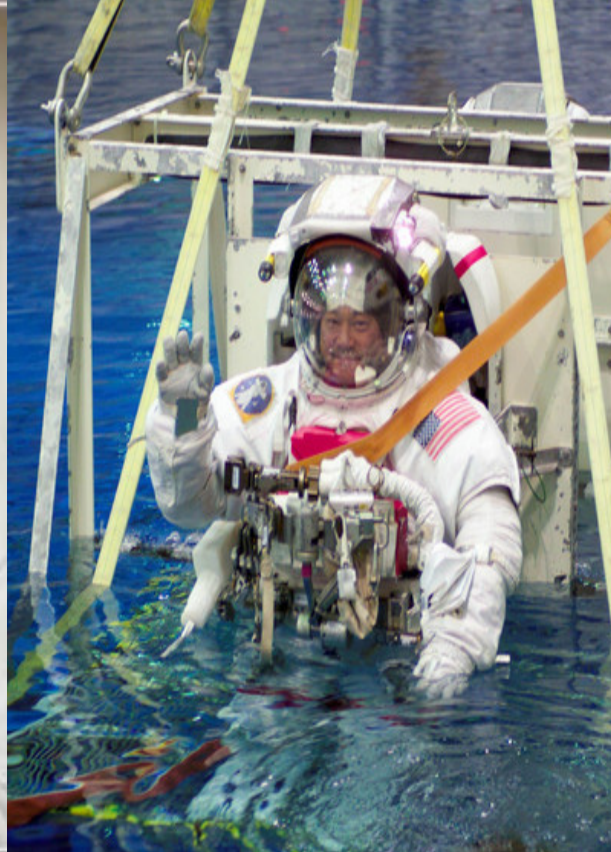
1. Explain the rationale for a programmatic approach to assessment in the CBME model
2. Discuss the importance of authentic, work-based ('point of care') assessment in CBME
3. Recognize that 'assessment drives learning' and how aligning objectives, educational programs and assessments functions to optimize learning
4. Outline the role of guided self-reflection in supporting residents to develop life-long learning skills

Which One is Not the Same?

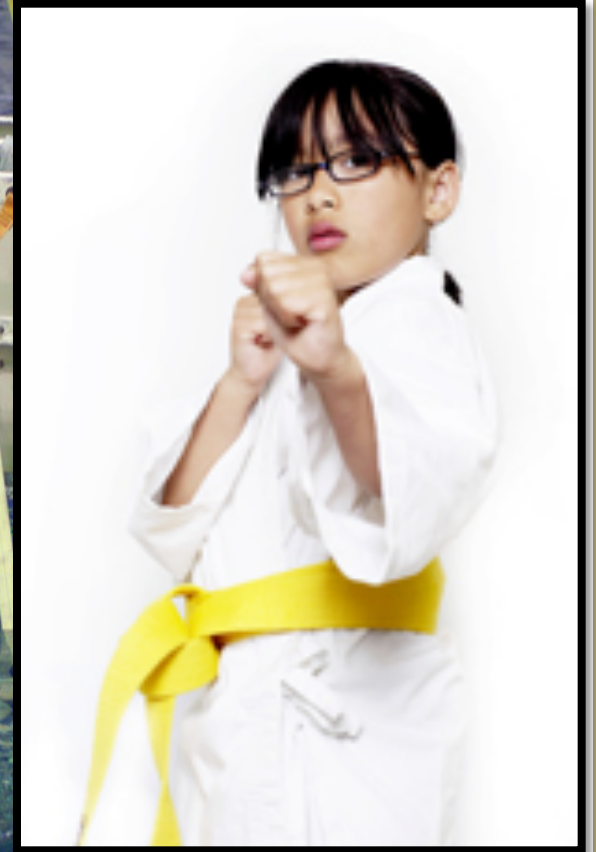
Time-based



Achievement



Achievement



Our current medical education model: the tea steeping model



Is there a better way
to ensure
competence than
just time spent?

Flexner & Osler: 100 Years After





*The most dangerous phrase in the language is
'we've always done it this way'*

Admiral Grace Hopper



**CHANGE
AHEAD**

Change is Underway...

CBME

...is an outcomes-based approach to the design, implementation, assessment and evaluation of a medical education program using an organizing framework of competencies



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Medicine's Social Contract with Society



Formation au
XXI^e siècle



COUNTRY RANKINGS

Top 2*
Middle
Bottom 2*

Commonwealth Fund Study 2013



AUS CAN FRA GER NETH NZ NOR SWE SWIZ UK US

OVERALL RANKING (2013)

Quality Care	4	10	9	5	5	7	7	3	2	1	11
Effective Care	2	9	8	7	5	4	11	10	3	1	5
Safe Care	4	7	9	6	5	2	11	10	8	1	3
Coordinated Care	3	10	2	6	7	9	11	5	4	1	7
Patient-Centered Care	4	8	9	10	5	2	7	11	3	1	6
Access	5	8	10	7	3	6	11	9	2	1	4
Cost-Related Problem	8	9	11	2	4	7	6	4	2	1	9
Timeliness of Care	9	5	10	4	8	6	3	1	7	1	11
Efficiency	6	11	10	4	2	7	8	9	1	3	5
Equity	4	10	8	9	7	3	4	2	6	1	11
Healthy Lives	5	9	7	4	8	10	6	1	2	2	11
Health Expenditures/Capita, 2011**	4	8	1	7	5	9	6	2	3	10	11
	\$3,800	\$4,522	\$4,118	\$4,495	\$5,099	\$3,182	\$5,669	\$3,925	\$5,643	\$3,405	\$8,508

Notes: * Includes ties. ** Expenditures shown in \$US PPP (purchasing power parity); Australian \$ data are from 2010.

Source: Calculated by The Commonwealth Fund based on 2011 International Health Policy Survey of Sicker Adults; 2012 International Health Policy Survey of Primary Care Physicians; 2013 International Health Policy Survey; Commonwealth Fund National Scorecard 2011; World Health Organization; and Organization for Economic Cooperation and Development, *OECD Health Data, 2013* (Paris: OECD, Nov. 2013).



$$\text{Value} = \frac{\text{Quality}}{\text{Cost}}$$

Research

Recherche

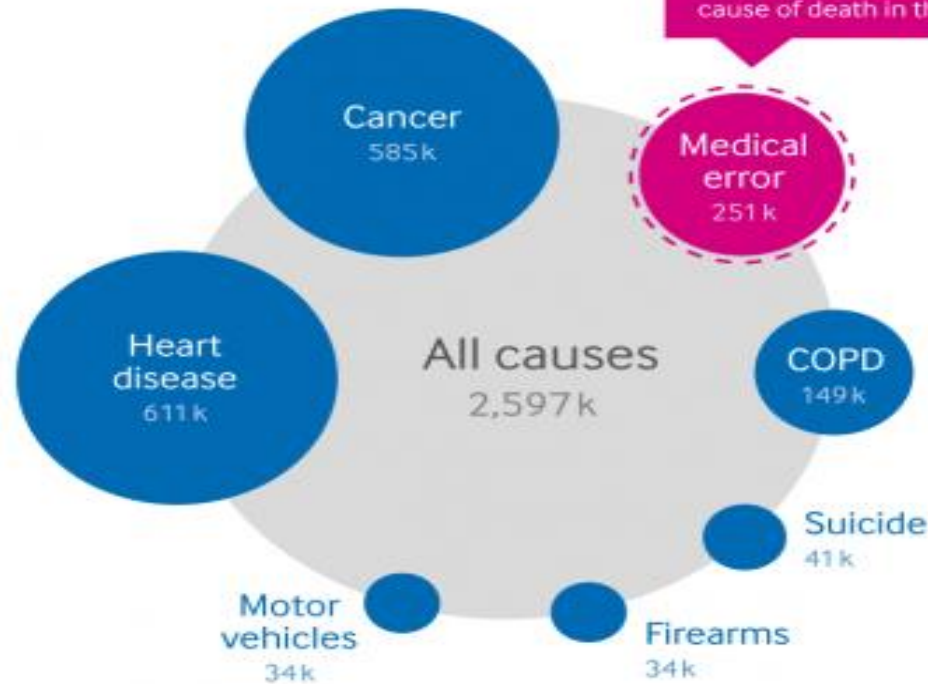
The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada

**Adverse event rate in Cdn Hospitals = 7.5%
~ 37% preventable**

CMAJ 2004;170(11):1678-86



Causes of death, US, 2013



However, we're not even counting this - medical error is not recorded on US death certificates

thebmj

Read the full article online

<http://bmj.co/mederr>

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Data source: http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf

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Health Rate My Hospital

Medical errors may be 3rd leading cause of death in U.S.

Death certificates do not record deaths resulting from inadequate patient care

CBC News Posted: May 04, 2016 12:04 PM ET | Last Updated: May 04, 2016 12:04 PM ET



Medical errors include preventable complications, diagnostic errors and communication breakdowns. (Shutterstock)

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- Hospitals slow to

Medical errors are underestimated and could be the third leading cause of death in the U.S., say doctors calling for more transparency internationally.

Death certificates in Canada, the U.S. and the U.K. rely on a mortality coding system — the International Classification of Disease code, or ICD — that doesn't capture fatal consequences due to failures in health care. The ICD is used in medical record-keeping in 117 countries, including Canada.

Estimates of how often people die not from a disease but from the care they received is based on limited and outdated methods, Prof. Martin Makary and research fellow Michael Daniel, of Baltimore-based Johns Hopkins University, say in Wednesday's issue of **The BMJ (formerly the British Medical Journal)**.

"People tend to think about an individual doctor's mistake, but we're really talking much more broadly about system failures, about wrong diagnosis, about medication errors and communication breakdowns," Makary said in an interview.

- 'Never events' lists hospital mistakes that should never happen in Canada

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Must Watch



"Incompetence & Public Concern"

NEWFOUNDLAND: HEALTH CARE

Suspended radiologist erred 708 times, review finds

TARA BRAUTIGAM
THE CANADIAN PRESS
NOVEMBER 1, 2007

ST. JOHN'S -- The work of a suspended Newfoundland radiologist was so poor that he missed glaring problems such as tumours, broken bones and cases of pneumonia, the chief of the province's largest health board said yesterday after an in-depth review of nearly 3,800 patient records.

As a result, some patients of Fred Kasirye may have missed potentially life-saving treatment, said Louise Jones, interim chief executive officer of the Eastern Health Authority.

"There have been pneumonias that have been missed, there's been fractures that have been missed, there's been some tumours that have been missed," Ms. Jones said during a news conference. "We did not go back to quantify that. We had over 5,000 reports that were going out and we left that in the hands of the physicians and the patients themselves."

Dr. Kasirye was hired at the Burin Peninsula Health November. But in May, he was suspended without pay over concerns over his procedures and decision-making.

'I was defensive and overly cautious' pathologist confesses

Last Updated: Wednesday, January 30, 2008 | 6:14 PM ET
[CBC News](#)

Charles Smith confessed on Wednesday in Toronto to confidently providing expert testimony in areas where his experience was in fact limited, which in part led to the conviction of a mother against a child.

The public inquiry examining the disgraced pathologist's work heard of several of his cases, from visiting a mother suspected of killing her child to the traits of killer mothers to police and reporters.

Smith was asked questions about the case of Sharon, a seven-year-old who he concluded died of 80 scissor stab wounds.

Second-degree murder charges against the child's mother, Louise Reynolds of Kingston, Ont., were dropped after other experts later concluded the child was mauled by a dog.

Smith said he became involved in the case despite his lack of knowledge about lacerations at the insistence of Ontario's chief coroner's office.

"I certainly recognized that I had limited experience. I now

WEDNESDAY, JANUARY 30, 2008

A12 THE OTTAWA CITIZEN

Editorial The pathology of Dr. Smith

Dr. Charles Smith's long apology for his failings as an expert witness might be making him feel better, but it's doing little to reassure the rest of us.

At the current Inquiry into Pediatric Forensic Pathology in Ontario, Dr. Smith is testifying, in contrite fashion, about his mistakes. He's scheduled to keep answering questions at the inquiry for the rest of this week.

Dr. Smith was once considered an expert about the suspi-

Mr. Smith's own description of himself shows a man who was bad at his job and who persuaded himself that he wasn't. That shows something far worse than poor judgment. Everyone gets in over their head once in a while. What matters is having the wisdom to recognize one's own ignorance, and the grace to admit it, especially when the stakes are high. The stakes were dizzyingly high in Dr. Smith's field: his



Charles Smith, shown framed by his lawyers at the public inquiry into his work, admitted to visiting the mother of

Ballistic model of Medical Education



How Do You Deliver a Good Obstetrician? Outcome-Based Evaluation of Medical Education

David A. Asch, MD, Sean Nicholson, PhD, Sindhu K. Srinivas, MD, MSCE,
Jeph Herrin, PhD, and Andrew J. Epstein, PhD, MPP

Abstract

The goal of medical education is the production of a workforce capable of improving the health and health care of patients and populations, but it is hard to use a goal that lofty, that broad, and that distant as a standard against which to judge the success of schools or training programs or particular elements within them. For that reason, the evaluation of medical education often focuses on elements of its structure and process, or on the assessment of competencies that could be considered intermediate outcomes. These measures

are more practical because they are easier to collect, and they are valuable when they reflect activities in important positions along the pathway to clinical outcomes. But they are all substitutes for measuring whether educational efforts produce doctors who take good care of patients.

The authors argue that the evaluation of medical education can become more closely tethered to the clinical outcomes medical education aims to achieve. They focus on a specific clinical

outcome—maternal complications of obstetrical delivery—and show how examining various observable elements of physicians' training and experience helps reveal which of those elements lead to better outcomes. Does it matter where obstetricians trained? Does it matter how much experience they have? Does it matter how good they were to start? Each of these questions reflects a component of the production of a good obstetrician and, most important, defines a good obstetrician as one whose patients in the end do well.

Editor's Note: A commentary on this article by T.J. Nasca, K.B. Weiss, J.P. Bagian, and T.P. Brigham

programs by actual patient outcomes is not only more patient-centered, it better

**Does It Matter Where the
Obstetrician Trained?**

Maternal complication rates

- Substantial and stable differences in complication rates across programs
- Consistent across vaginal, cesarean, and total deliveries ($p = 0.51$; $P < 0.001$)
- Consistent across individual complications
- Adjusted for comorbidities and hospital characteristics

	Rate	95% CI
1	10.3%	10.1-10.5
2	11.3%	11.3-11.4
3	11.9%	11.9-12.0
4	12.4%	12.3-12.5
5	13.6%	13.1-14.0



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The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

Surgical Skill and Complication Rates after Bariatric Surgery

John D. Birkmeyer, M.D., Jonathan F. Finks, M.D., Amanda O'Reilly, R.N., M.S.,
Mary Oerline, M.S., Arthur M. Carlin, M.D., Andre R. Nunn, M.D.,
Justin Dimick, M.D., M.P.H., Mousumi Banerjee, Ph.D.,
and Nancy J.O. Birkmeyer, Ph.D., for the Michigan Bariatric Surgery Collaborative

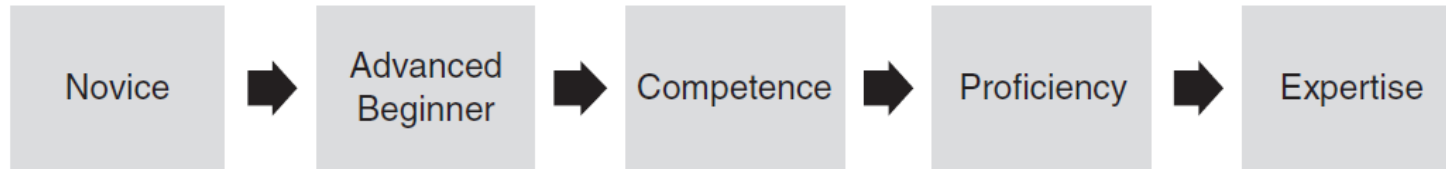


Figure 2. Spectrum of skills acquisition (Dreyfus & Dreyfus 1980).

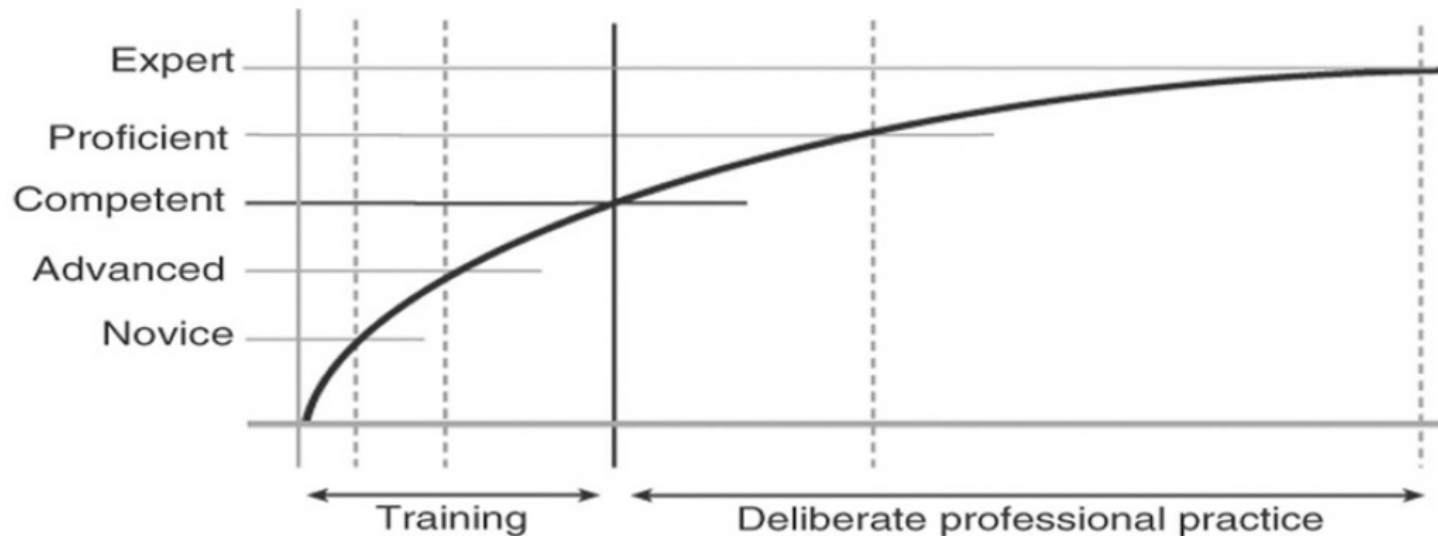


Figure 3. General curve of skills acquisition reproduced from ten Cate (2010).

CanMEDS 2015

CBD^{1,2} Competence Continuum



¹ Competence by Design (CBD)

² Milestones at each stage describe terminal competencies



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Switching to Assessment





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Focus on the bad apple...

3%



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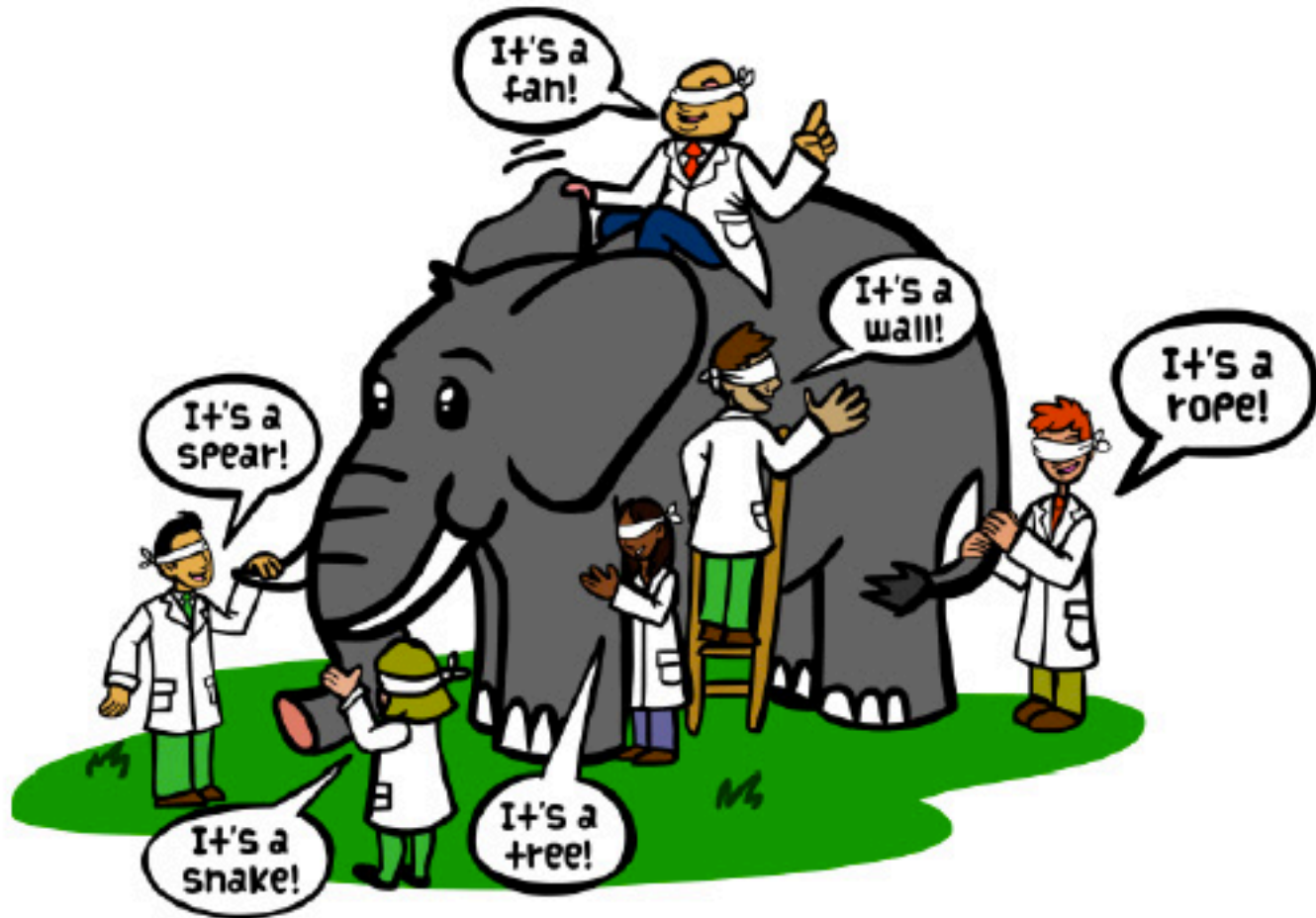
Just the headlines...





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Importance of an Assessment Program

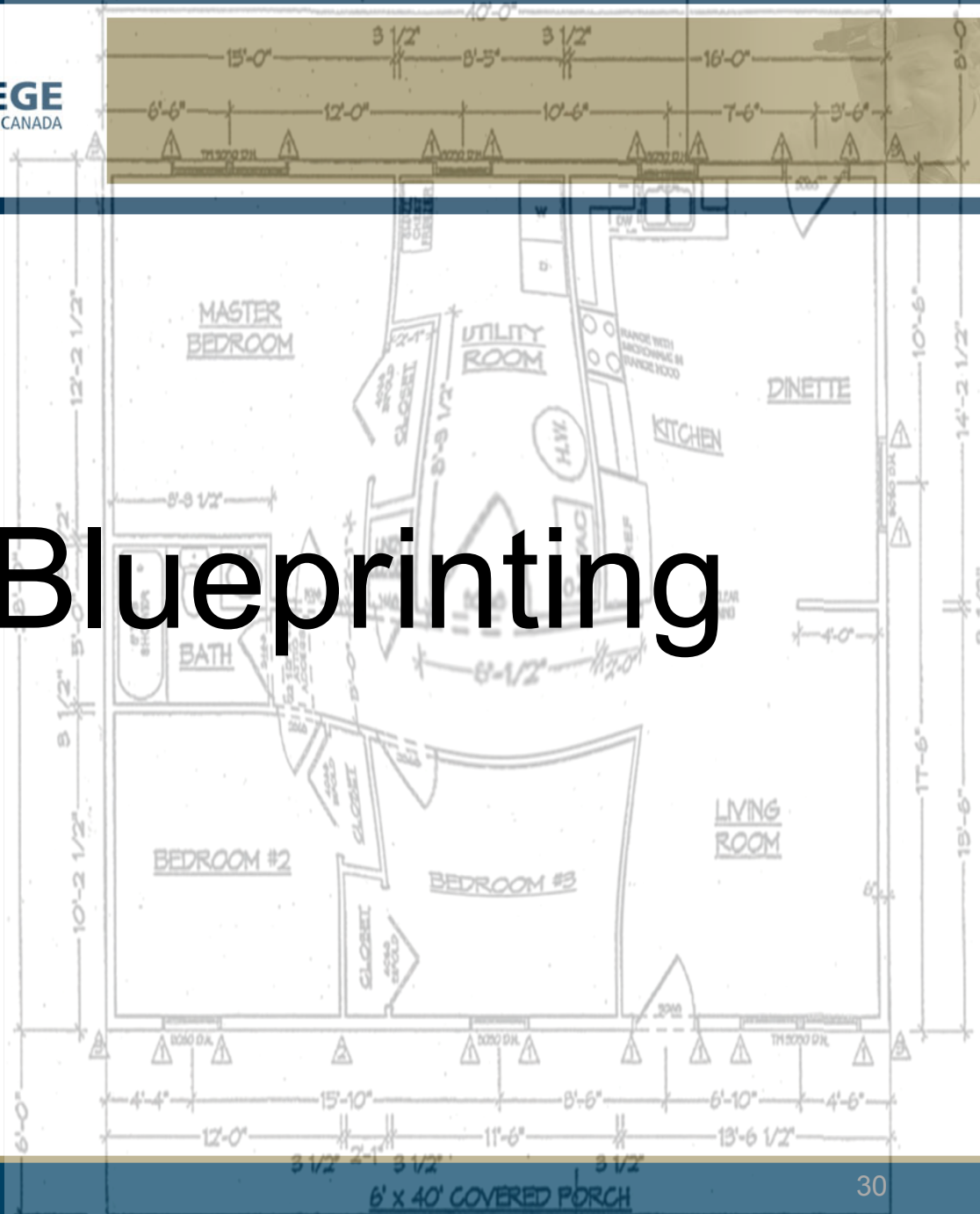


Assessment needs to be 'multi-modal'

- There is no single 'best' Assessment tool
- Need to use multiple tools to get an overall impression of the learner



Blueprinting



Need an Organizing Framework



CANMEDS

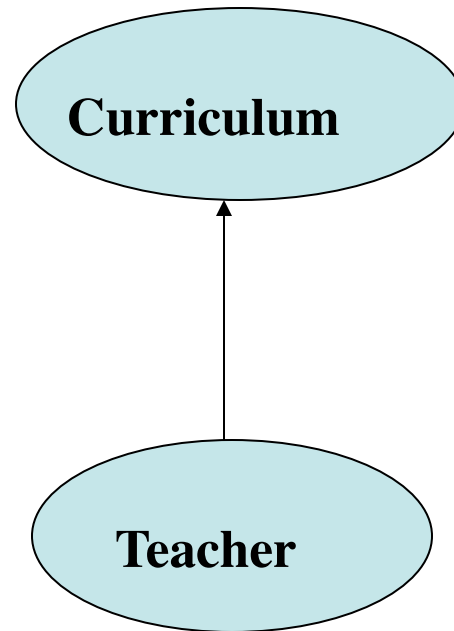


A simple model of competence

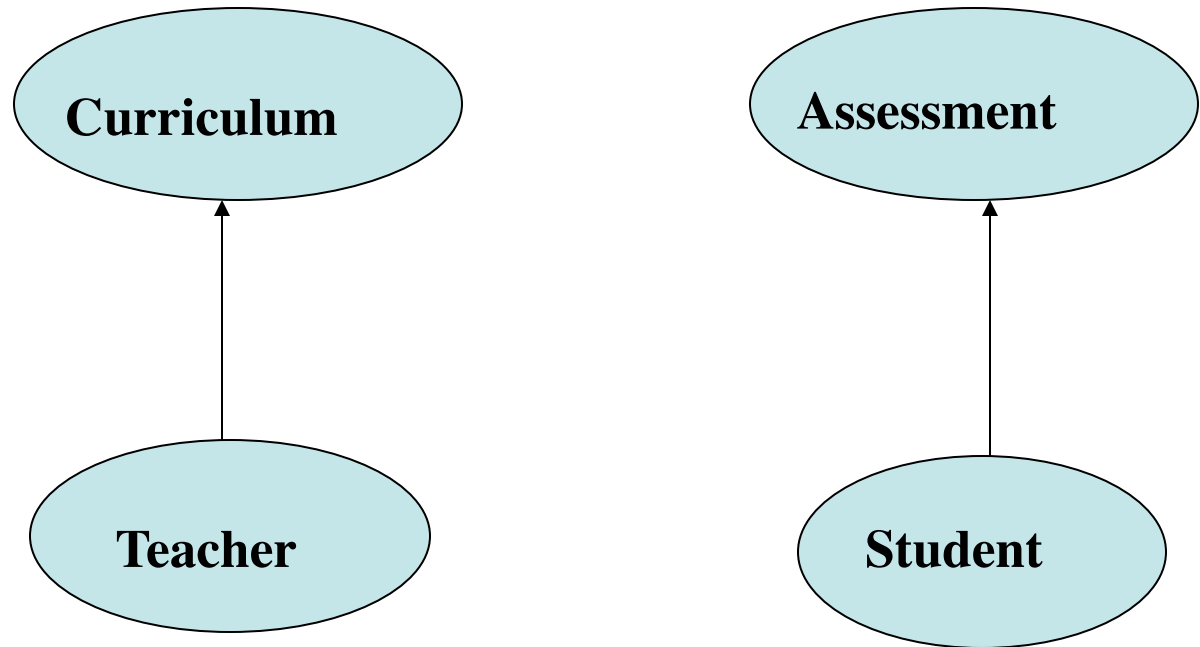


Miller GE. The assessment of clinical skills/performance.
Academic Medicine (Supplement) 1990; 65: S63-S7.

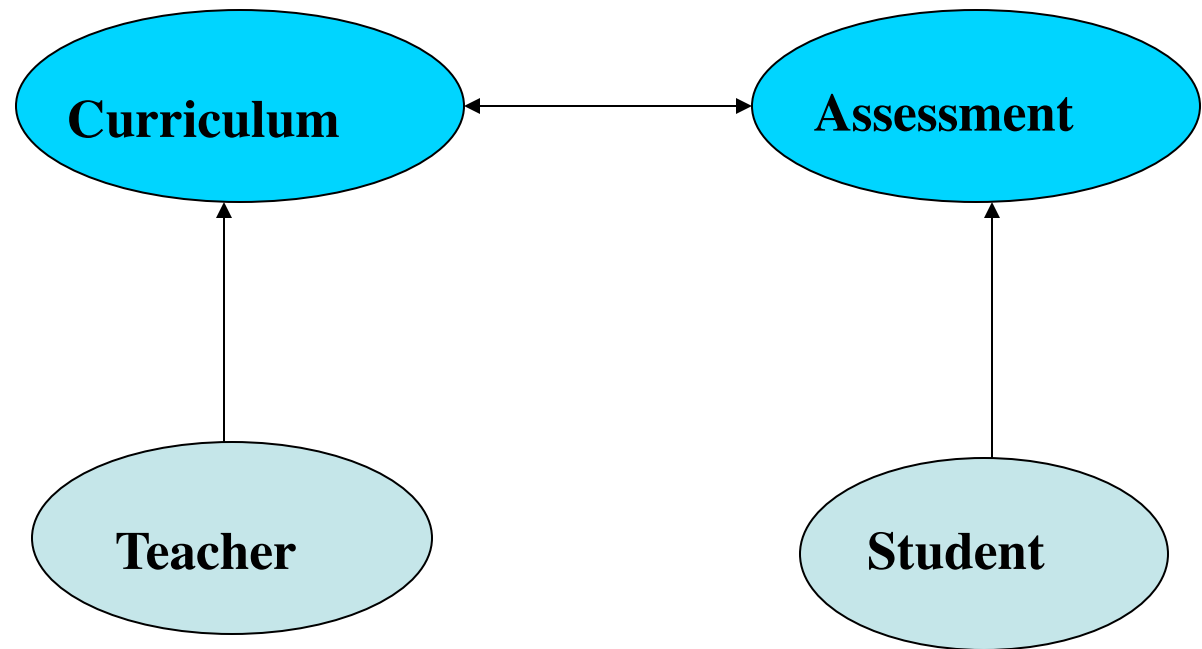
What drives learning?



The student's perspective



What needs to happen!!!





How to choose an assessment tool / program

$$U = C \times A \times R \times V \times E$$

C=cost

A=acceptability

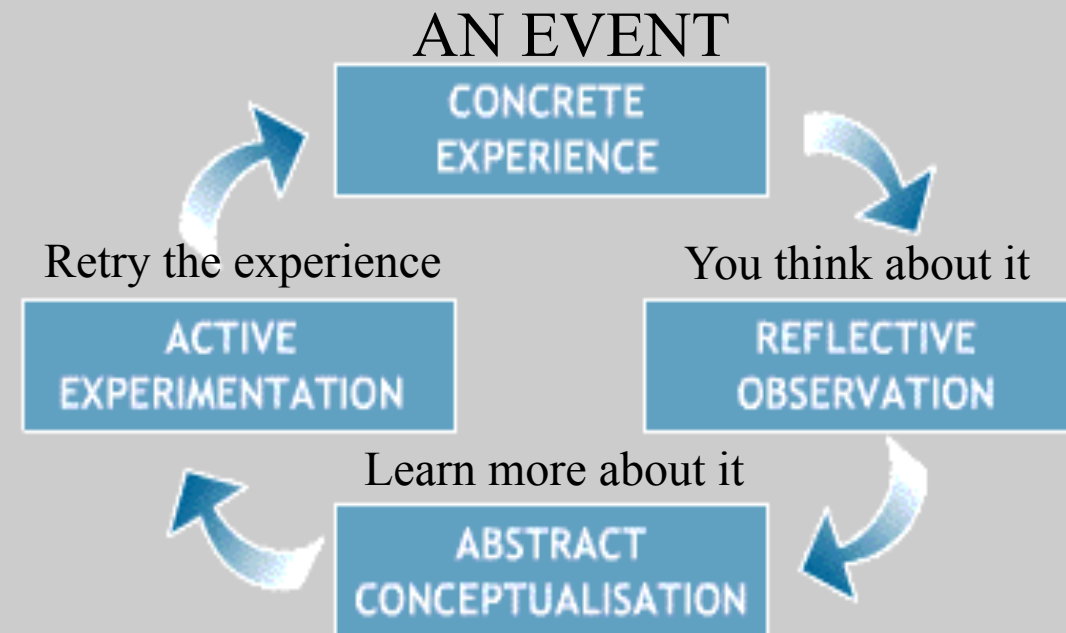
R=reliability

V=validity

E=educational impact



THE KOLB LEARNING CYCLE:





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Value of Debriefing during Simulated Crisis Management

Oral versus Video-assisted Oral Feedback

Georges L. Savoldelli, M.D., M.Ed.,* Viren N. Naik, M.D., M.Ed., F.R.C.P.C.,† Jason Park, M.D., M.Ed.,‡
Hwan S. Joo, M.D., F.R.C.P.C.,§ Roger Chow,|| Stanley J. Hamstra, Ph.D.¶

Background: The debriefing process during simulation-based education has been poorly studied despite its educational importance. Videotape feedback is an adjunct that may enhance the impact of the debriefing and in turn maximize learning. The purpose of this study was to investigate the value of the debriefing process during simulation and to compare the educational efficacy of two types of feedback, oral feedback and videotape-assisted oral feedback, against control (no debriefing).

Methods: Forty-two anesthesia residents were enrolled in the study. After completing a pretest scenario, participants were randomly assigned to receive no debriefing, oral feedback, or videotape-assisted oral feedback. The debriefing focused on nontechnical skills performance guided by crisis resource management principles. Participants were then required to manage a posttest scenario. The videotapes of all performances were later reviewed by two blinded independent assessors who rated participants' nontechnical skills using a validated scoring system.

Results: Participants' nontechnical skills did not improve in the control group, whereas the provision of oral feedback, either assisted or not assisted with videotape review, resulted in significant improvement ($P < 0.005$). There was no difference in improvement between oral and video-assisted oral feedback groups.

Conclusions: Exposure to a simulated crisis without constructive debriefing by instructors offers little benefit to trainees. The addition of video review did not offer any advantage over oral feedback alone. Valuable simulation training can therefore be achieved even when video technology is not available.

FULL-SCALE high-fidelity mannequin simulators are increasingly recognized as useful educational adjuncts. Within anesthesia, these tools are used for various training purposes, including simulating rare events, teaching technical skills, or advanced life support algorithms.¹ The simulation room is also an ideal setting for teaching the principles of crisis resource management.² In this environment, the importance of nontechnical skills such as task management, team working, situation awareness,

or decision making, can be safely practiced. A recent study confirmed the instructional value of simulation for acquiring these cognitive and interpersonal skills.³

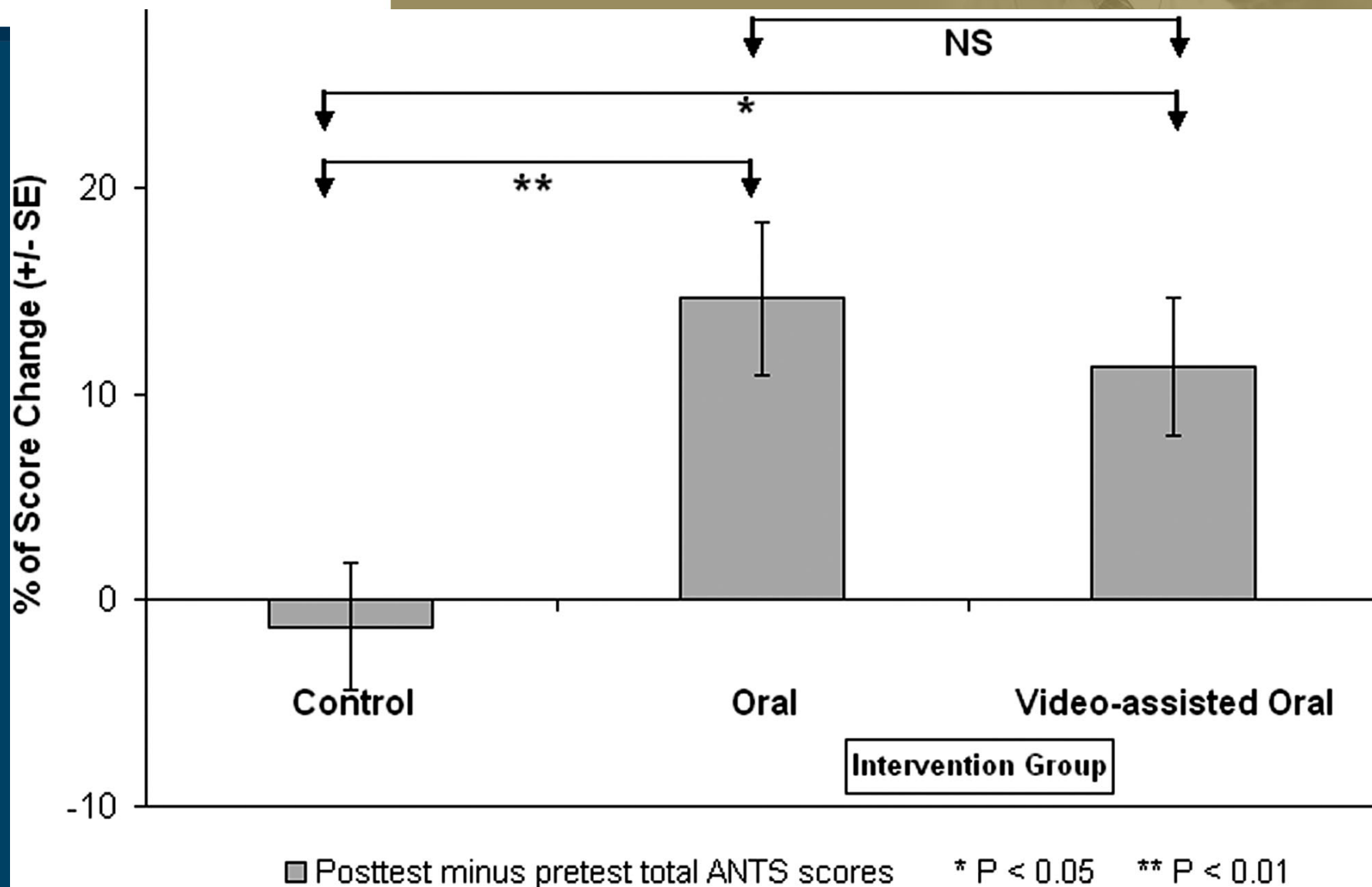
Simulation-based learning is typically experiential.⁴ The experience is affected by the quality of the scenario, the instructor's expertise, and the feedback process.⁵ The debriefing process following a scenario allows trainees to reflect on their performance as well as receive instructor's feedback. Reviewing one's performance by video may be a useful adjunct to the debriefing process. Among supposed benefits, it is thought to provide an objective record, facilitate instructor's constructive comments, and promote trainee's self-assessment. Videotape feedback has proven useful in other fields outside of medicine and in some areas within medicine, including anesthesia.^{6,7} Although many educators believe in its value, videotape feedback is not systematically used in simulation. In addition, despite the perceived importance of the debriefing process during simulation, only one study has empirically assessed its impact, and the study was inconclusive.⁸

The purpose of this study was to assess the value of the debriefing process during simulation-based education. We compared the changes in nontechnical performance when anesthesia residents received no feedback, instructor oral feedback only, or videotape-aided instructor oral feedback.

Materials and Methods

Participation and Orientation Phase

After Institutional Research Board (St. Michael's Hospital, University of Toronto, Toronto, Ontario, Canada) approval, anesthesia residents in postgraduate years 1, 2, and 4 from the University of Toronto were invited to





The achilles heel of CBD???

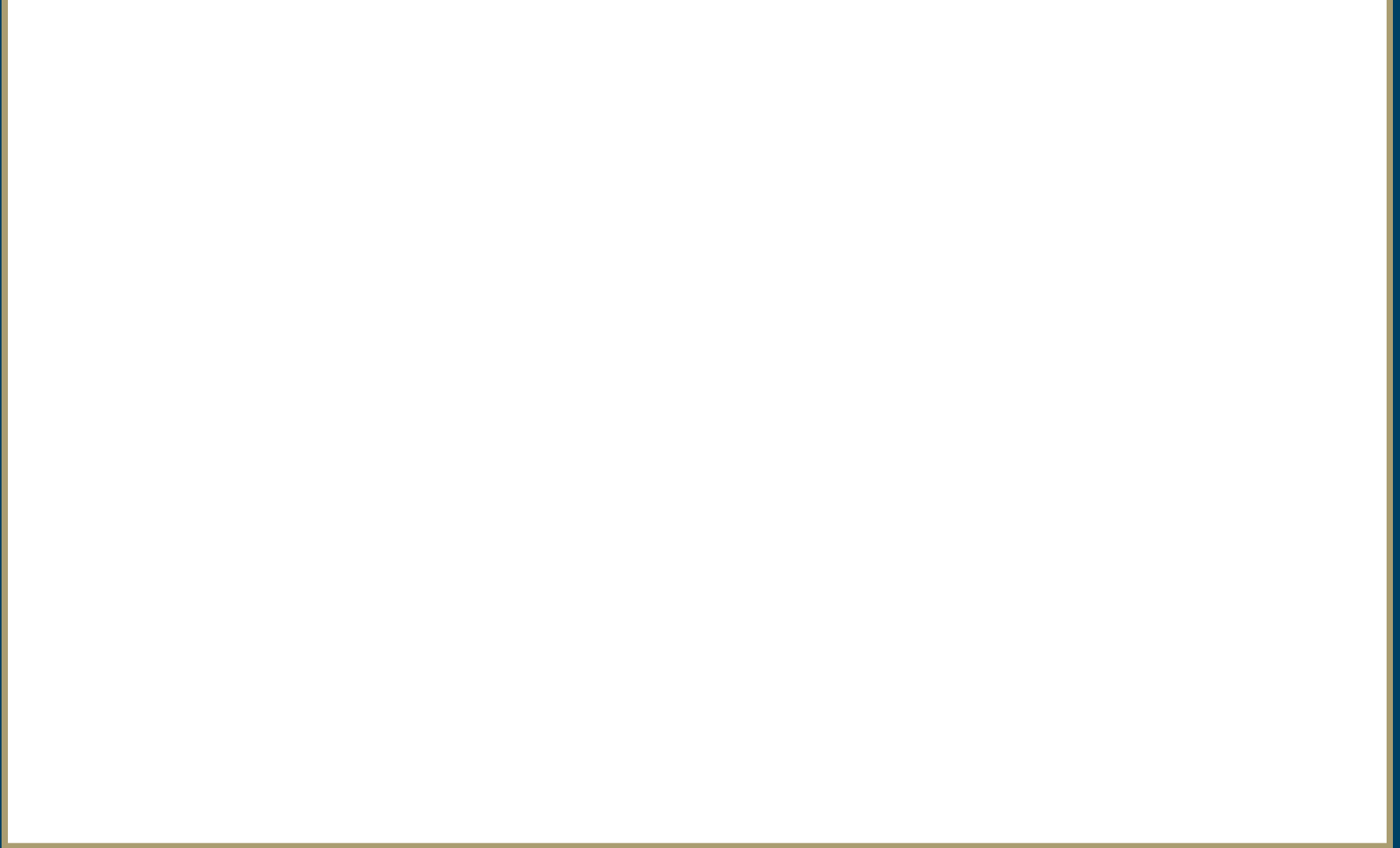


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The Wisdom of Crowds



How do you make judgments using all of these pieces of information?





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Promoting REFLECTION





Accuracy of Physician Self-assessment Compared With Observed Measures of Competence

A Systematic Review

David A. Davis, MD

Paul E. Mazmanian, PhD

Michael Fordis, MD

R. Van Harrison, PhD

Kevin E. Thorpe, MMath

Laure Perrier, MEd, MLIS

SELF-ASSESSMENT AND SELF-directed, lifelong learning have long been mainstays of the medical profession—they are activities presumed to be linked closely to the quality of care provided to patients.¹ Physicians in the United States must demonstrate their engagement in lifelong learning by choosing and participating in continuing medical education (CME) activities² and acquiring CME credit, which is mandated by the majority of state medical boards under the rubric of states' medical practice acts.³ The American Medical Association's Physicians Recognition Award certificate,⁴ which is based on CME participation, meets the CME requirements of the Joint Commission on Accreditation of Healthcare Organizations related to hospital accreditation.

Self-assessment and lifelong learning were adopted by the American Board of Medical Specialties explicitly as 1 of 4 elements in its Maintenance of Certification program.⁵ Furthermore, diplomates of the American Board of Internal Medicine who choose to recertify

Context Core physician activities of lifelong learning, continuing medical education credit, relicensure, specialty recertification, and clinical competence are linked to the abilities of physicians to assess their own learning needs and choose educational activities that meet these needs.

Objective To determine how accurately physicians self-assess compared with external observations of their competence.

Data Sources The electronic databases MEDLINE (1966–July 2006), EMBASE (1980–July 2006), CINAHL (1982–July 2006), PsycINFO (1967–July 2006), the Research and Development Resource Base in CME (1978–July 2006), and proprietary search engines were searched using terms related to self-directed learning, self-assessment, and self-reflection.

Study Selection Studies were included if they compared physicians' self-rated assessments with external observations, used quantifiable and replicable measures, included a study population of at least 50% practicing physicians, residents, or similar health professionals, and were conducted in the United Kingdom, Canada, United States, Australia, or New Zealand. Studies were excluded if they were comparisons of self-reports, studies of medical students, assessed physician beliefs about patient status, described the development of self-assessment measures, or were self-assessment programs of specialty societies. Studies conducted in the context of an educational or quality improvement intervention were included only if comparative data were obtained before the intervention.

Data Extraction Study population, content area and self-assessment domain of the study, methods used to measure the self-assessment of study participants and those used to measure their competence or performance, existence and use of statistical tests, study outcomes, and explanatory comparative data were extracted.

Data Synthesis The search yielded 725 articles, of which 17 met all inclusion criteria. The studies included a wide range of domains, comparisons, measures, and methodological rigor. Of the 20 comparisons between self- and external assessment, 13 demonstrated little, no, or an inverse relationship and 7 demonstrated positive associations. A number of studies found the worst accuracy in self-assessment among physicians who were the least skilled and those who were the most confident. These results are consistent with those found in other professions.

Conclusions While suboptimal in quality, the preponderance of evidence suggests that physicians have a limited ability to accurately self-assess. The processes currently used to undertake professional development and evaluate competence may need to focus more on external assessment.

JAMA. 2006;296:1094–1102

www.jama.com

Author Affiliations: Knowledge Translation Program of the Li Ka Shing Knowledge Institute at St Michael's Hospital (Dr Davis and Mr Thorpe), Departments of Health Policy, Management, and Evaluation (Dr Davis), Family and Community Medicine (Dr Davis), and Public Health Sciences (Mr Thorpe), and the Office of Continuing Education and Professional Development (Ms Perrier), University of Toronto, Toronto, Ontario; Departments of Family Medicine and Epidemiology and Community Health, School of

Medicine, Virginia Commonwealth University, Richmond (Dr Mazmanian); Center for Collaborative and Interactive Technologies, Baylor College of Medicine, Houston, Tex (Dr Fordis); and Department of Medical Education, University of Michigan, Ann Arbor (Dr Harrison).

Corresponding Author: Laure Perrier, MEd, MLIS, University of Toronto, 500 University Ave, 6th Floor, Toronto, Ontario, Canada M5G 1V7 (l.perrier@utoronto.ca).

For editorial comment see p 1137.

CME available online at
www.jama.com



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JAMA. 2006;296:1094-1102

www.jama.com

Can an external lens help to support CBME Assessment?





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Can we embrace the Subjective? Use of Narrative?





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Simulation



The Holy Grail – moving CBME into CPD



Towards CBME...



Questions / Comments ?



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SOURCE: ESPN

Mississippi's literacy program shows improvement

The Associated Press

and his late wife, Sally, put
\$100 million of their own
money to improve "rudimen-



Man tries armed robbery with knife in gun store

A 57-year-old Greenfield man was shot in the chest Thursday during an armed robbery attempt at Buckhorn Guns, 2779 W. Ramsey Ave.

Police said the suspect walked into the store and asked to see several handguns just before 3 p.m. Thursday. After handing the pistols back to the store owner, he pulled a 4-inch knife with a serrated edge from the back of his pants and demanded the owner give him one of the guns and some ammunition.

The store owner shot the man once in the chest and called 911. The suspect was taken to Froedtert Memorial Lutheran Hospital, where he was listed in satis-

factory condition Monday.

Greenfield Police Department Detective Sgt. Paul Schlecht said a warrant was issued for the suspect's arrest Monday. He will be taken to the Criminal Justice Facility after his discharge from the hospital.

The Observer is not naming the man because he had not been charged in Milwaukee County courts by press deadline.

The district attorney's office is reviewing the shooting, a standard procedure whenever shots are fired during a robbery.

— Eric Decker 



BRIEFS

Study Shows Frequent Sex Enhances Pregnancy Chances

By The Associated Press

BOSTON — A study that researchers say gives the best esti-

ples don't want to use other forms of birth control.

Researchers say there are six days in every menstrual cycle

11 Points