

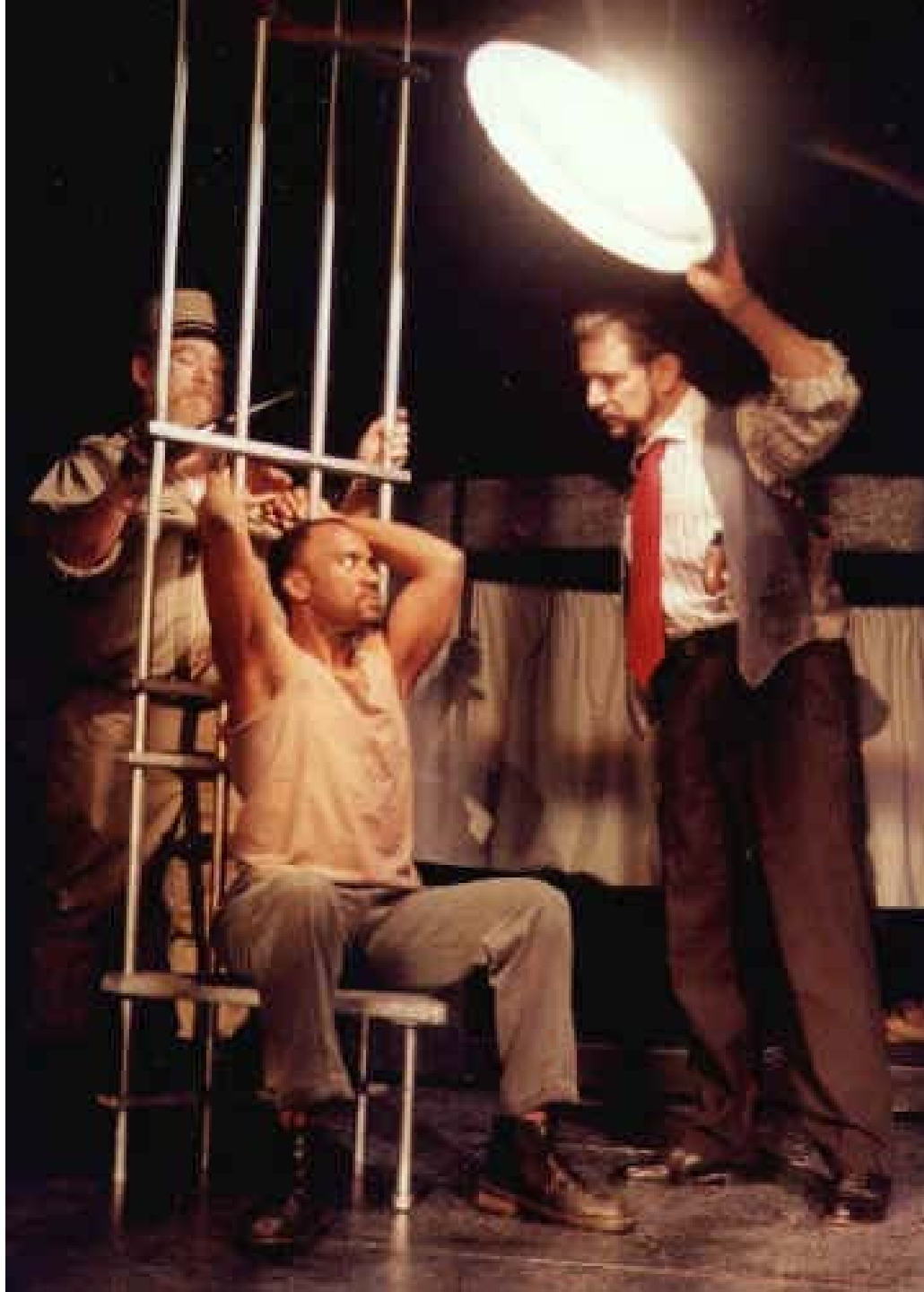
Facultad de Medicina



# ***LA EVALUACION EN EDUCACIÓN***

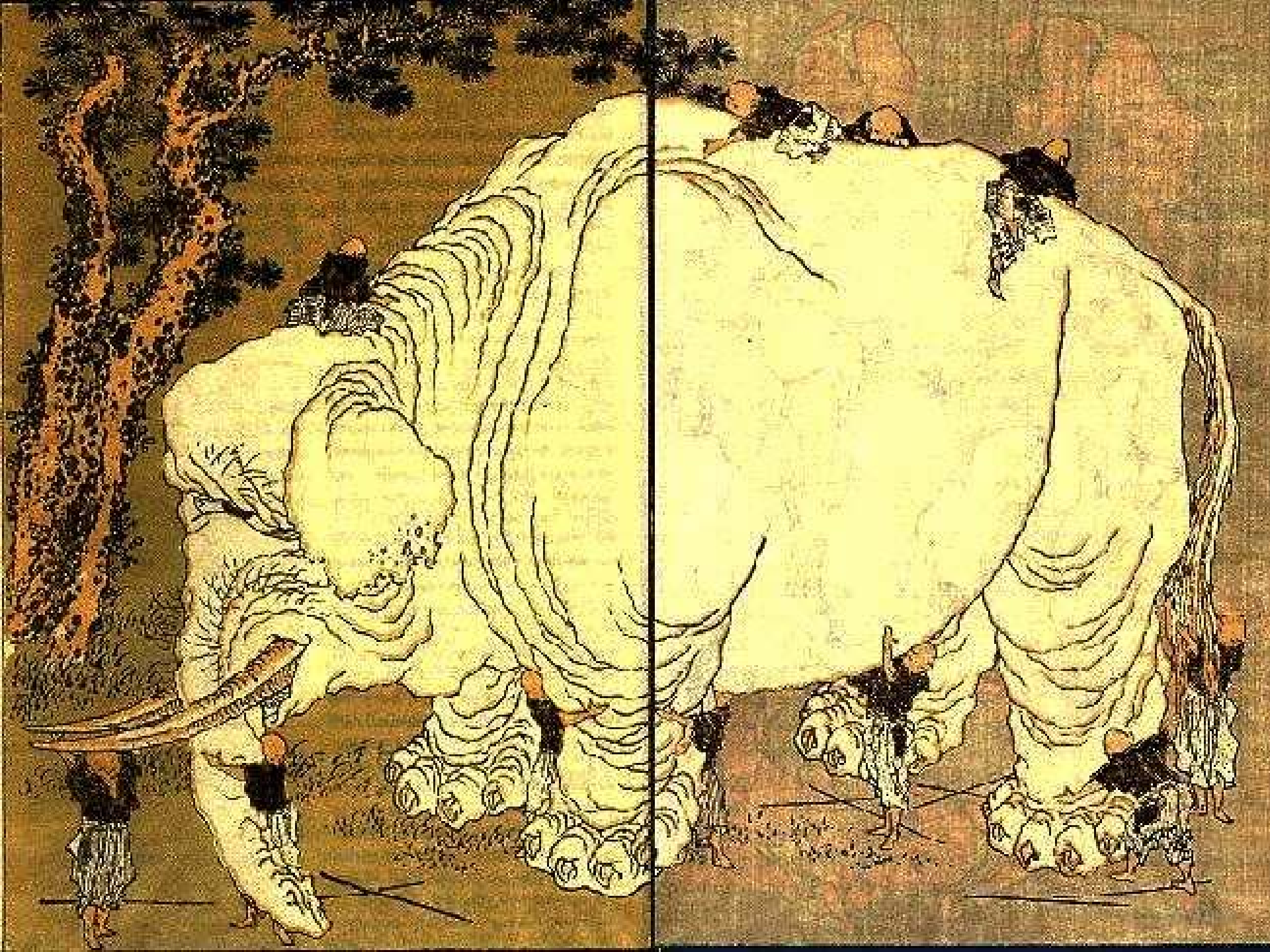
## ***MÉDICA: ¿ARTE O CIENCIA?***

***DR. MELCHOR SANCHEZ MENDIOLA  
DIVISION DE POSGRADO  
FACULTAD DE MEDICINA UNAM***



**“Es curioso que emprendamos tantas de nuestras responsabilidades más importantes sin preparación significativa. El matrimonio y la paternidad son probablemente los ejemplos más ubicuos, y existe poca esperanza de que estos estados humanos lleguen alguna vez a evolucionar racionalmente. La tarea de la educación médica, por otra parte, es aceptada deliberada y desapasionadamente, y sin embargo la preparación para tan influyente papel es igualmente frágil”**

***George Miller. Educating Medical Teachers. HUP.  
1980***

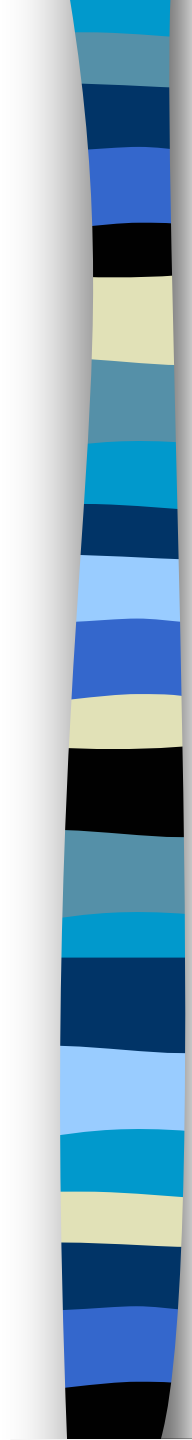




**Evaluación es...**

**“un intento de conocer  
a esa persona”**

***Rowntree 1977***



**“COLECTAR DATOS DE  
EVALUACIÓN ES COMO  
COLECTAR LA BASURA,  
ES MEJOR QUE SEPAS QUE  
VAS A HACER CON ELLA  
ANTES DE RECOGERLA”**

***MARK TWAIN***

**MEDICAL EDUCATION  
IN THE  
UNITED STATES AND CANADA**

**A REPORT TO  
THE CARNEGIE FOUNDATION  
FOR THE ADVANCEMENT OF TEACHING  
BY  
ABRAHAM FLEXNER**



<http://www.carnegiefoundation.org>



**“ EL PODER DE EXAMINAR  
ES EL PODER DE  
DESTRUIR...”**

***ABRAHAM FLEXNER.  
MEDICAL EDUCATION IN THE  
UNITED STATES AND CANADA.  
1910. p 169***



**The city of Chicago is in respect to medical education the plague spot of the country.**

**not a single one of the schools furnishes clinical opportunities in proper abundance,**

*Laboratory facilities:* These are mainly limited to signs.

**<http://www.carnegiefoundation.org>**

WORLD FEDERATION FOR MEDICAL EDUCATION

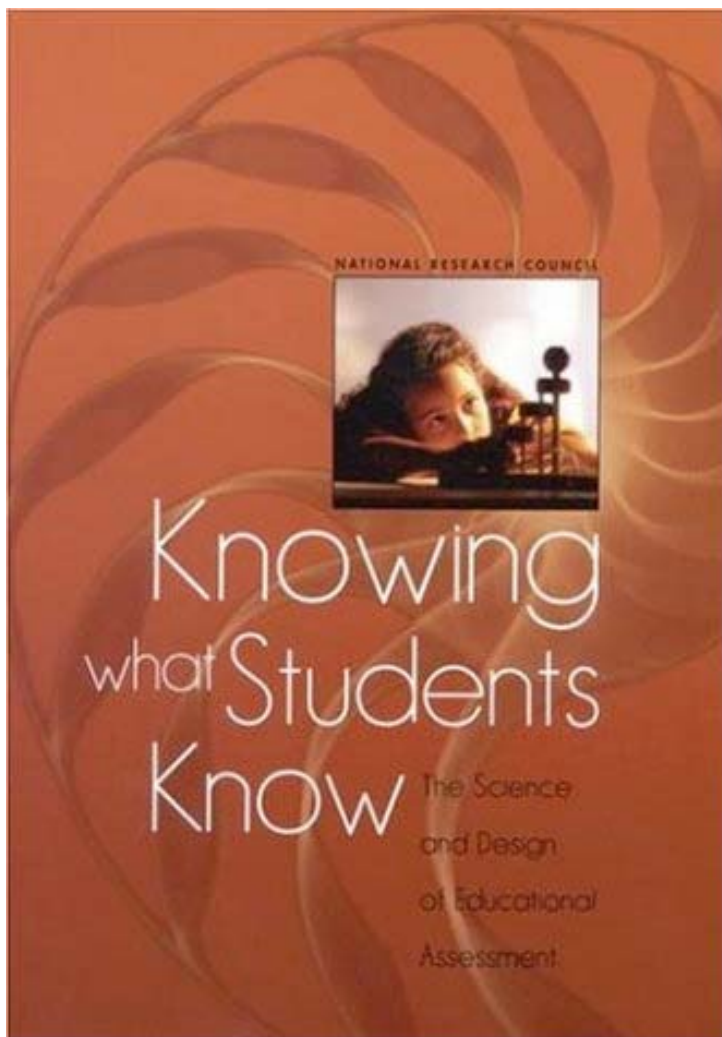


# Postgraduate Medical Education

WFME Global Standards  
for  
Quality Improvement

WFME Office: University of Copenhagen · Denmark · 2003

<http://www.wfme.org>

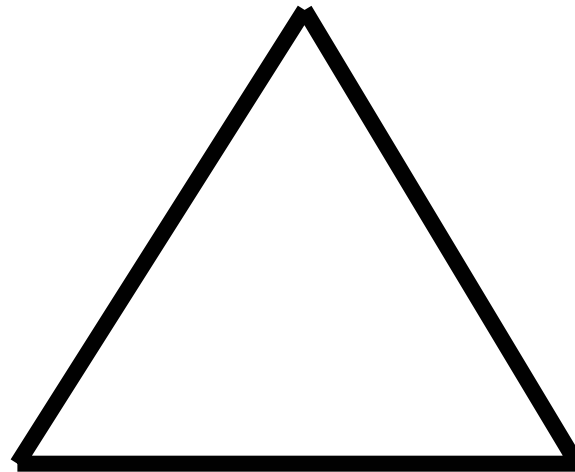


**National Research  
Council.  
Knowing what students  
know:  
The science and design  
of educational  
measurement.  
National Academy  
Press.2001**

**<http://www.nap.edu>**

*Toda evaluación descansa en tres pilares*

**COGNICION**



**OBSERVACION**

**INTERPRETACION**

*Knowing what students know: The science and design of Educational measurement. National Academy Press.2001*



---

HANDBOOK  
OF  
TEST DEVELOPMENT

---

Edited by  
Steven M. Downing • Thomas M. Haladyna

**Downing SM, Haladyna TM. Eds.  
Lawrence Erlbaum Associates . 2006**



# Cómo construir preguntas de Selección Múltiple para Ciencias Básicas y Ciencias Clínicas

Versión en español de la

**Tercera Edición**  
(Revisada)

Autores de la versión original en inglés:

*Susan M. Case*  
*David B. Swanson*

*National Board of Medical Examiners*  
*3750 Market Street*  
*Philadelphia, PA 19104*

[www.nbme.org](http://www.nbme.org)



## ***Práctica basada en evidencia...***

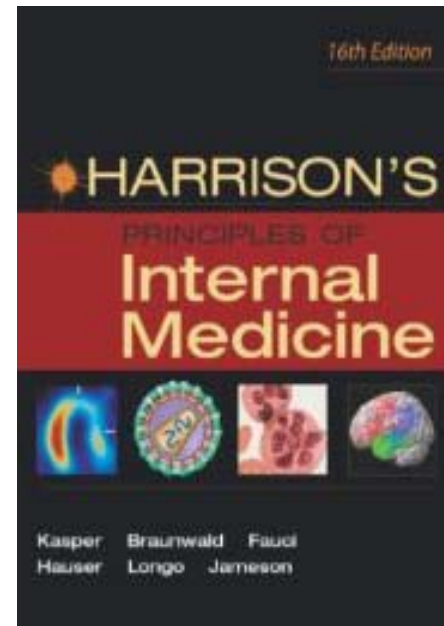
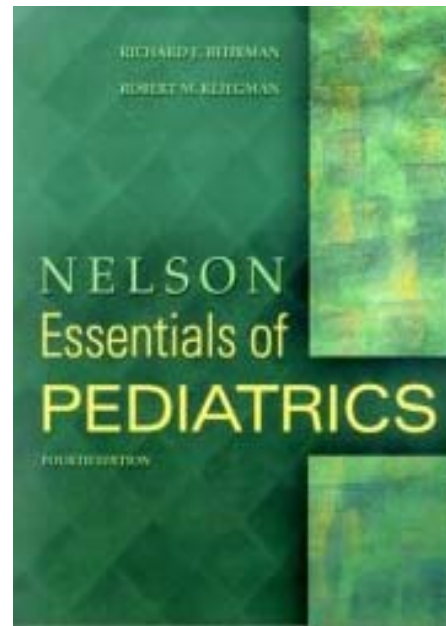
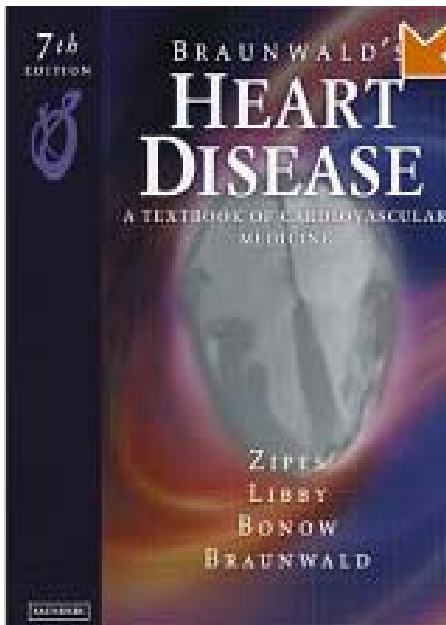
**“Sin duda, los médicos han sido mucho mejores que los profesores en el avance de su efectividad profesional, combinando la investigación con la práctica en el interés de la producción de conocimientos...”**

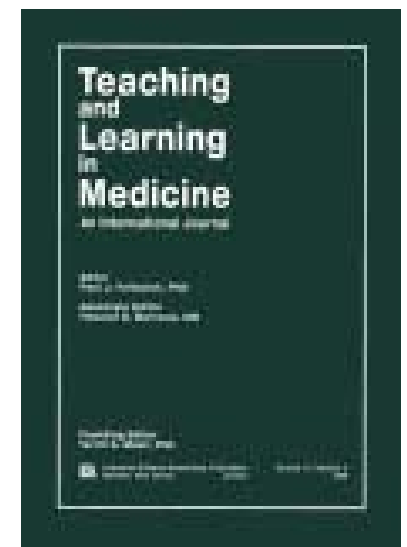
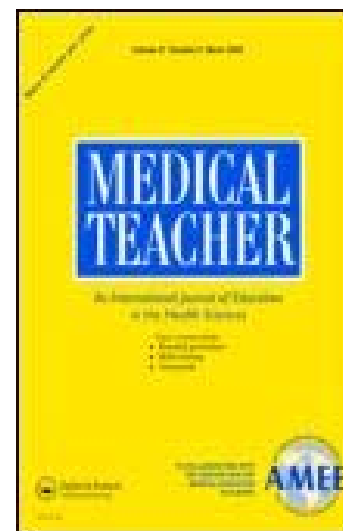
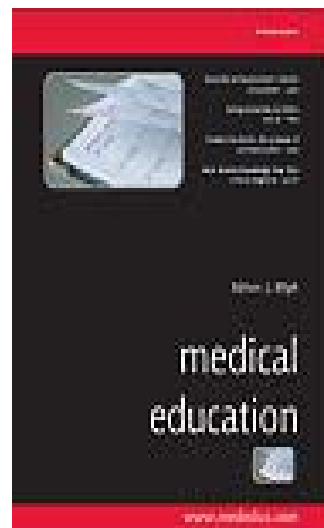
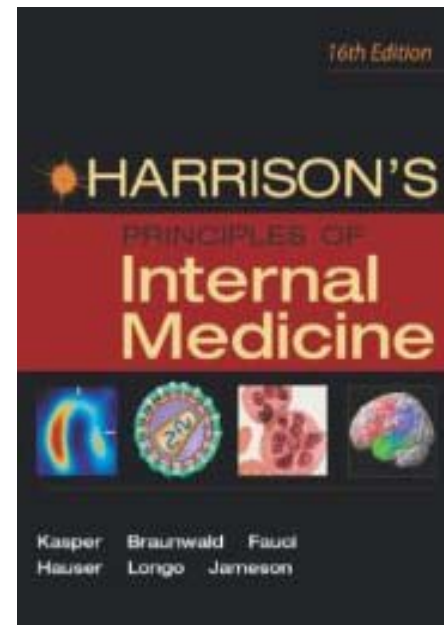
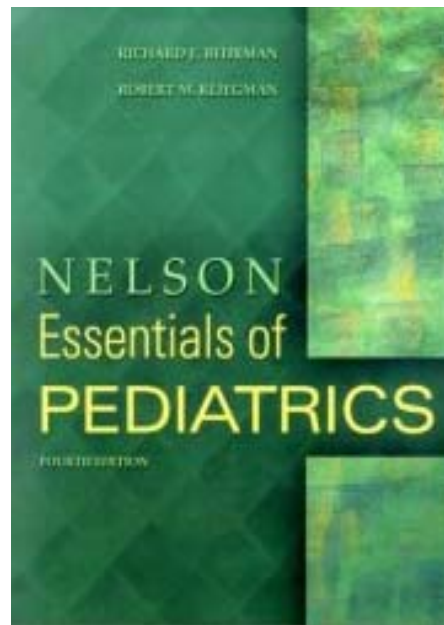
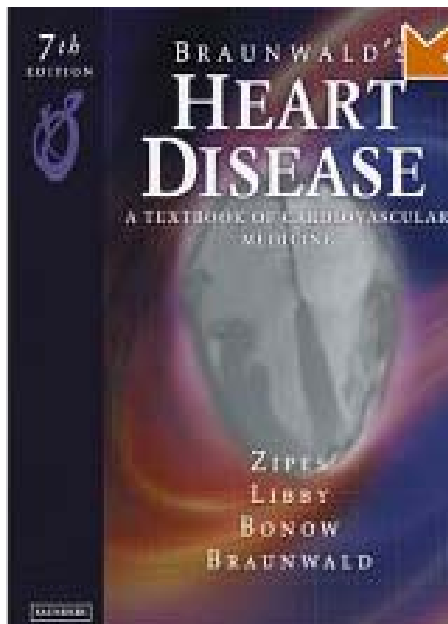
*Hargreaves 2000*

**“ La educación médica basada en evidencia es la implementación, por profesores en su práctica, de métodos y aproximaciones a la educación basados en la mejor evidencia disponible...”**

***Harden RM et al. BEME Guide No.1:  
Best Evidence Medical Education.  
Med Teach 1999; 21:553-562***









**COPE Committee on Publication Ethics Seminar**  
 March 10th 2006  
 BMA House, London  
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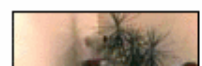
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**Lack of practice: is surgeon training adequate?**  
*BMC Medical Education* 2006, **6**:6

Based on retrospective review of a large general hospital, the average availability of operations for surgical trainees in the UK has fallen by 44% within the last ten years, potentially undermining reforms to improve the quality of surgical training.



**Losing the basics**  
*BMC Medical Education* 2006, **6**:5

**NSP**

Primers in Biology  
 Protein Structure and Function  
 by Petsko and Ringe



**Selected as an Outstanding**

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The AERA SIG Communication of Research supports the **Budapest Open Access Initiative** and urges ejournals to support the initiative.

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- [ALSIC - Apprentissage des Langues et Syst?mes d'Information et de Communication](#) [France]
- [Academic Leadership](#) [USA]



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[Civil Rights, Education Research, and the Courts](#) (PDF)

Angelo N. Ancheta, Educational Researcher, Vol. 35, No. 1

## 2005 DeWitt Wallace-Reader's Digest Lecture

[A Foward Glance in the Mirror: Diversity Challenged--Access, Equity, and Success in Higher Education](#) (PDF)

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- Register of C2 Systematic Reviews of Interventions and Policy Evaluation (C2-RIPE)
- Centre for Reviews and Dissemination: Database of Abstracts of Reviews of Effects (DARE)

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THE FIFTH ANNUAL  
CAMPBELL COLLABORATION  
COLLOQUIUM:  
FEBRUARY 23-25, 2005  
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1: [Med Teach](#). 2001 Sep;23(5):455-461.

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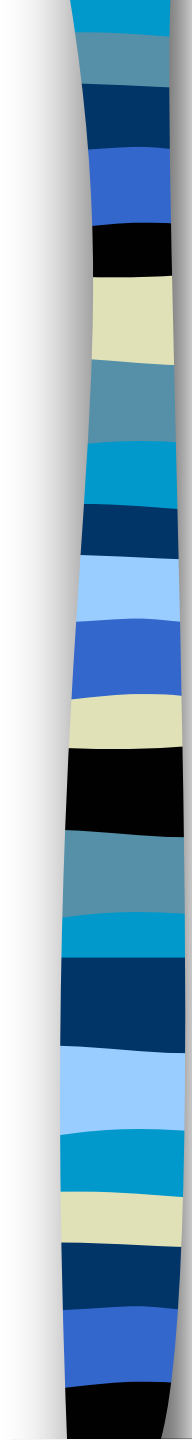
[MetaPress](#) [UIC Options](#)

### The journal club in postgraduate medical education: a systematic review.

[Ebbert JO](#), [Montori VM](#), [Schultz HJ](#).

Department of Internal Medicine, Mayo Clinic, Rochester, Minnesota, USA.

An investigation was made as to whether studies have found journal clubs for physicians in training to be effective for improving patient care, teaching critical appraisal skills, improving reading habits, increasing knowledge of clinical epidemiology and biostatistics, and increasing the use of medical literature in clinical practice. A literature search was undertaken using 10 databases and retrieval systems and hand searches of journals, conference proceedings and personal files. The rigor of studies meeting the inclusion criteria was analyzed using a protocol based on methods established by the Cochrane Collaboration. One randomized controlled trial found an improvement in knowledge of clinical epidemiology and biostatistics, reading habits, and the use of medical literature in practice, but no improvement in critical appraisal skills. Six less methodologically rigorous studies found possible improvement in critical appraisal skills. It is concluded that journal clubs may improve knowledge of clinical epidemiology and biostatistics, reading habits, and the use of medical literature in practice. A multi-center, randomized controlled trial of journal clubs is needed to assess whether journal clubs improve critical appraisal skills.



Revista  
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<http://www.comie.org.mx/rmie/>



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Several BEME Topic Review Groups are in the final stages of their reports. This website will be updated with information relating to reviews, some of which will be published in Medical Teacher. The reviews will be also be published as AMEE Guides.

BEME Collaboration, Tay Park House, 484 Perth Road, Dundee, DD2 1LR, UK  
Tel: +44 (0)1382 631967. Fax: +44 (0)1382 631987.  
email: [p.m.lilley@dundee.ac.uk](mailto:p.m.lilley@dundee.ac.uk)

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Inicio BEME Collaboration - i... Disco extraible (F:) Microsoft PowerPoint ... ES 03:59 p.m.

[www.bemecollaboration.org](http://www.bemecollaboration.org)

# A Review of Multiple-Choice Item-Writing Guidelines for Classroom Assessment

Thomas M. Haladyna  
*College of Education*  
*Arizona State University West*

Steven M. Downing  
*Department of Medical Education*  
*College of Medicine*  
*University of Illinois at Chicago*

Michael C. Rodriguez  
*Department of Educational Psychology*  
*University of Minnesota*

- **Taxonomía de 31 guías para POM**
- **Basadas en evidencia**
- **27 libros de texto**
- **> 100 trabajos de investigación**

APPLIED MEASUREMENT IN EDUCATION, 15(3), 309–334  
Copyright © 2002, Lawrence Erlbaum Associates, Inc.

# HOW MANY OPTIONS IS ENOUGH FOR A MULTIPLE-CHOICE TEST ITEM?

THOMAS M. HALADYNA  
Arizona State University West

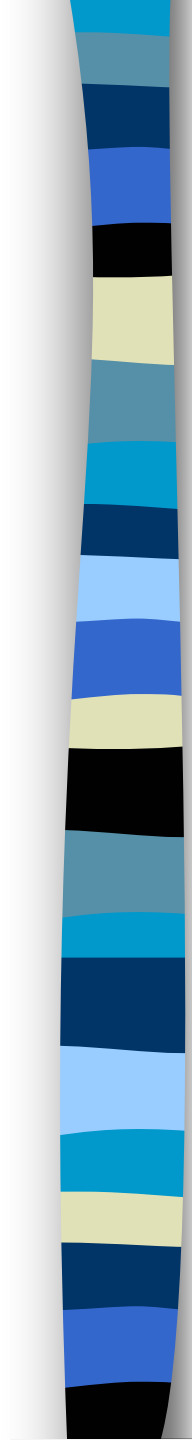
STEVEN M. DOWNING  
National Board of Medical Examiners

EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT  
1993, 53:999-1010

# **Three Options Are Optimal for Multiple-Choice Items: A Meta-Analysis of 80 Years of Research**

Michael C. Rodriguez, *University of Minnesota*

*Educational Measurement: Issues and Practice*  
*2005; 24(2):3-13*



## **Psychometric Characteristics and Response Times for One-Best-Answer Questions in Relation to Number and Source of Options**

David B. Swanson, Kathleen Z. Holtzman, Brian E. Clauser, and Amy J. Sawhill

*Acad Med.* 2005;80(10 suppl):S93–S96.

## **Psychometric Characteristics and Response Times for Content-Parallel Extended-Matching and One-Best-Answer Items in Relation to Number of Options**

David B. Swanson, Kathleen Z. Holtzman, Krista Allbee, and Brian E. Clauser

*Acad Med.* 2006;81(10 Suppl):S52–S55.

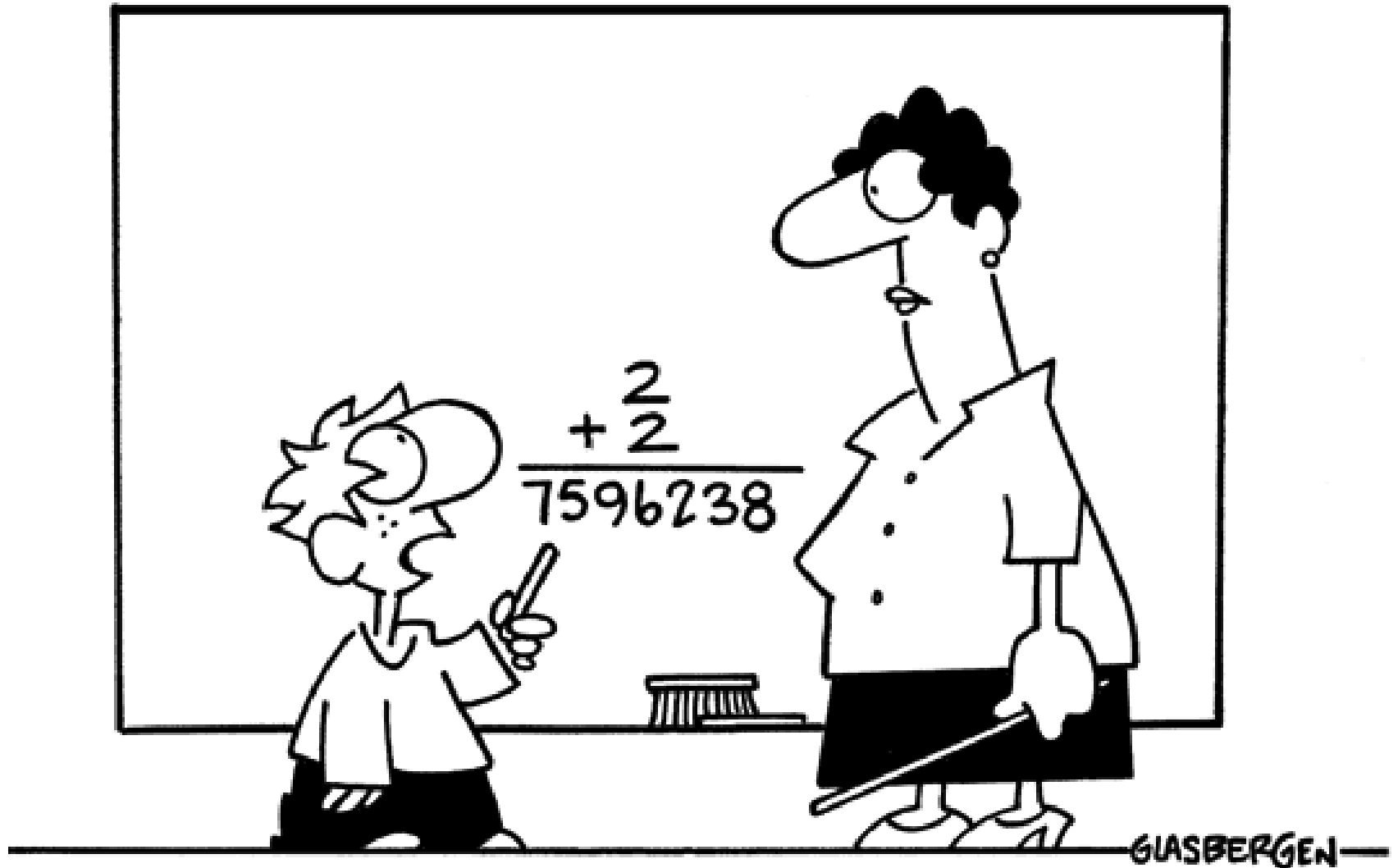


**LA  
ESTRUCTURA  
DE LAS  
REVOLUCIONES  
CIENTIFICAS**

**T. S. KUHN**

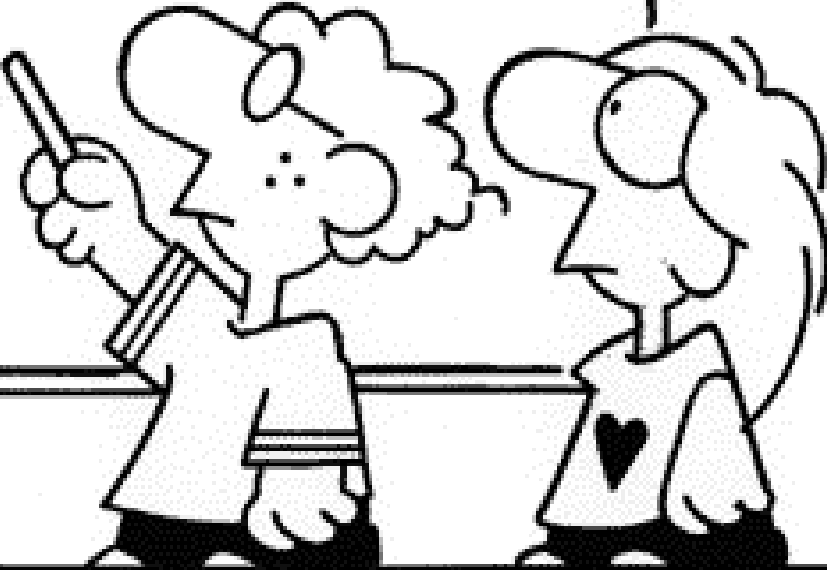
**cf** **BREVIARIOS**  
**Fondo de Cultura Económica**





**“En un mundo cada vez más complejo, a veces las viejas preguntas requieren nuevas respuestas”**

A B C D E F G H T T P : / / W W W .



GLASBERGEN





## A plea for new psychometric models in educational assessment

LAMBERT W T SCHUWIRTH & CEES P M VAN DER VLEUTEN

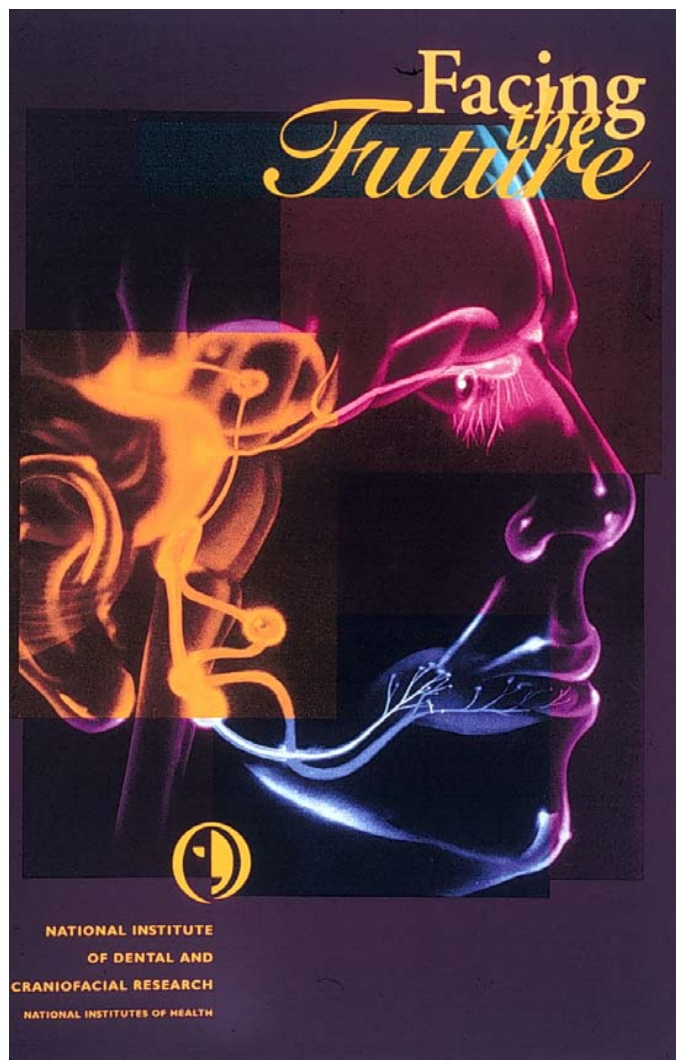
- **El modelo psicométrico actual de evaluación educativa tiene algunas debilidades**
- **La premisa central es que la competencia puede subdividirse en características genéricas y estables que pueden medirse de manera separada**
- **Requiere un enfoque numérico y reduccionista**
- **Necesidad de plantear nuevos enfoques**

*Medical Education 2006; 40: 296–300*

# Enfrentando el futuro...

***“En tiempos de cambio los que aprenden heredan la tierra, mientras que los educados se encuentran a sí mismos bellamente equipados para enfrentarse a un mundo que ya no existe”***

**Eric Hoffer (1902-1983)**





# Education at a Glance

OECD INDICATORS 2005

[www.oecd.org/edu/eag2005](http://www.oecd.org/edu/eag2005)

■ 95% confidence interval around the mean score

— Mean score on the problem-solving scale

Score points

600

Performance on the OECD PISA problem-solving scale

550

500

450

400

350



The top performing countries in the field of problem solving are Finland, Japan and Korea, all scoring almost 50 points ahead of the mean performance level for OECD countries. Australia, Belgium, Canada, the Czech Republic, Denmark, France, Germany, Iceland, the Netherlands, New Zealand, Sweden and Switzerland also perform above the mean, while Austria, Hungary and Ireland are clustered around it. Greece, Italy, Luxembourg, Mexico, Norway, Poland, Portugal, the Slovak Republic, Spain, Turkey and the United States perform below the mean.



Korea  
Finland  
Japan  
New Zealand  
Australia  
Canada  
Belgium  
Switzerland  
Netherlands  
France  
Denmark  
Czech Republic  
Germany  
Sweden  
Austria  
Iceland  
Hungary  
Ireland  
Luxembourg  
Slovak Republic  
Norway  
Poland  
Spain  
United States  
Portugal  
Italy  
Greece  
Turkey  
Mexico



**“Tengo tres sugerencias para México:  
educación, educación, educación”**

***Robert J. Aumann***

***Premio Nobel de Economía 2005***

# ***CONSTITUCION POLITICA DE LOS ESTADOS UNIDOS MEXICANOS***

**“Artículo 3/o. Todo individuo tiene  
derecho a recibir educación.**

***II. El criterio que orientará a esa  
educación se basará en los resultados  
del progreso científico...”***

**“LA INVESTIGACION EDUCATIVA TIENE  
UN RECORD BASTANTE POBRE DE  
CAMBIAR LA PRACTICA, YA QUE  
PARA MUCHOS MAESTROS EL  
CURRICULO ES PARTE DE SU  
PROPIA PERSONALIDAD”**

***GEOFFREY NORMAN 2005***

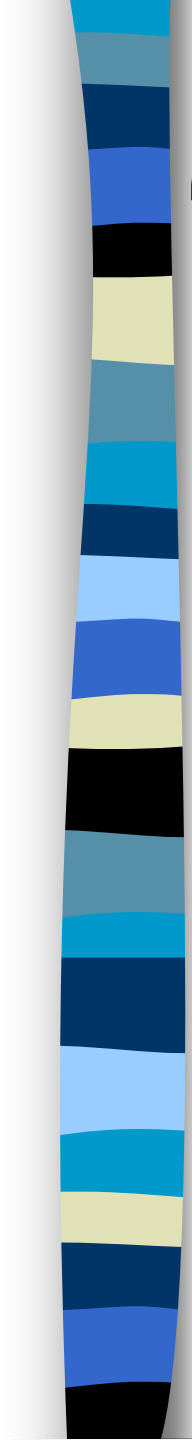
**“ Se ha dicho que es más  
difícil cambiar un  
currículo que mover  
un cementerio... ”**

*Harden RM. Approaches to curriculum  
planning.*

*Med Educ 1986;  
20:458-66*







**“ No hay nada más difícil de  
planear, más dudoso de  
tener éxito, ni más  
peligroso de manejar que  
la creación de un nuevo  
orden de las cosas... ”**

*Niccolo Machiavelli*  
*“El Príncipe”*



The NEW ENGLAND  
JOURNAL of MEDICINE

**MEDICAL EDUCATION**

Malcolm Cox, M.D., and David M. Irby, Ph.D., Editors

American Medical Education 100 Years  
after the Flexner Report

Molly Cooke, M.D., David M. Irby, Ph.D., William Sullivan, Ph.D.,  
and Kenneth M. Ludmerer, M.D.

**N Engl J Med 2006;355:1339-44.**





The NEW ENGLAND  
JOURNAL of MEDICINE

**MEDICAL EDUCATION**

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American Medical Education 100 Years  
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Molly Cooke, M.D., David M. Irby, Ph.D., William Sullivan, Ph.D.,  
and Kenneth M. Ludmerer, M.D.

**N Engl J Med 2006;355:1339-44.**

**Medical Education Reform: Is It Time for a  
Modern Flexner Report?**

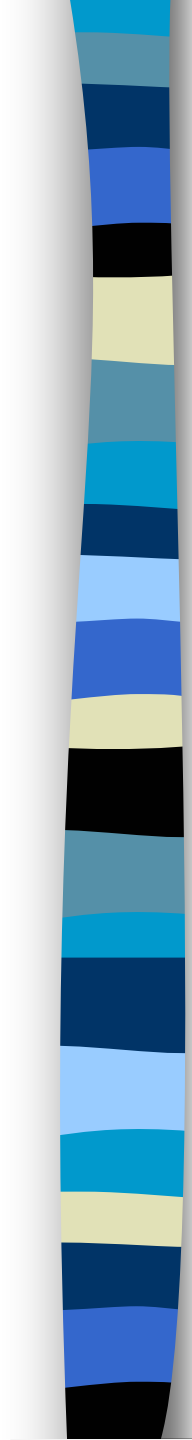
**Michael E. Whitcomb, MD**

Academic Medicine, Vol. 82, No. 1 / January 2007



- 
- **“Si quieres predecir el futuro, invéntalo”**

***John Sculley***  
***Apple Computer***

- 
- **“Seremos como la orquesta que llega para un concierto con los músicos equivocados, el día equivocado, en el lugar equivocado y con los instrumentos equivocados”**

***Harden RM. Educating doctors: painting the tiger. Med Teach 1998; 20:301-6***

I'LL TRY NOT  
TO HIT ANYTHING  
VITAL...





# **El Mito de Sísifo**

