

# Standardizing hands-on training and providing feedback

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# Agenda

- To discuss and reflect on how international courses could be standardized
- To reflect on how to provide feedback and supervision
- To acknowledge how assessments and assessments tools can be used in feedback and supervision

# Standardizing hands-on training



# Standardizing hands-on training



Part 1:  
Theoretical  
e-learning ending  
with theoretical test

Part 2:  
2-day practical course  
ending with practical  
assessment,  
or, 1-day online inter-  
active sessions

Part 3:  
5-station OSCE

Part 4:  
Train-the-trainer?

Self study/training, upload of 25 cases and  
interactive case discussions online

# What our TUS task force does to standardize and align courses

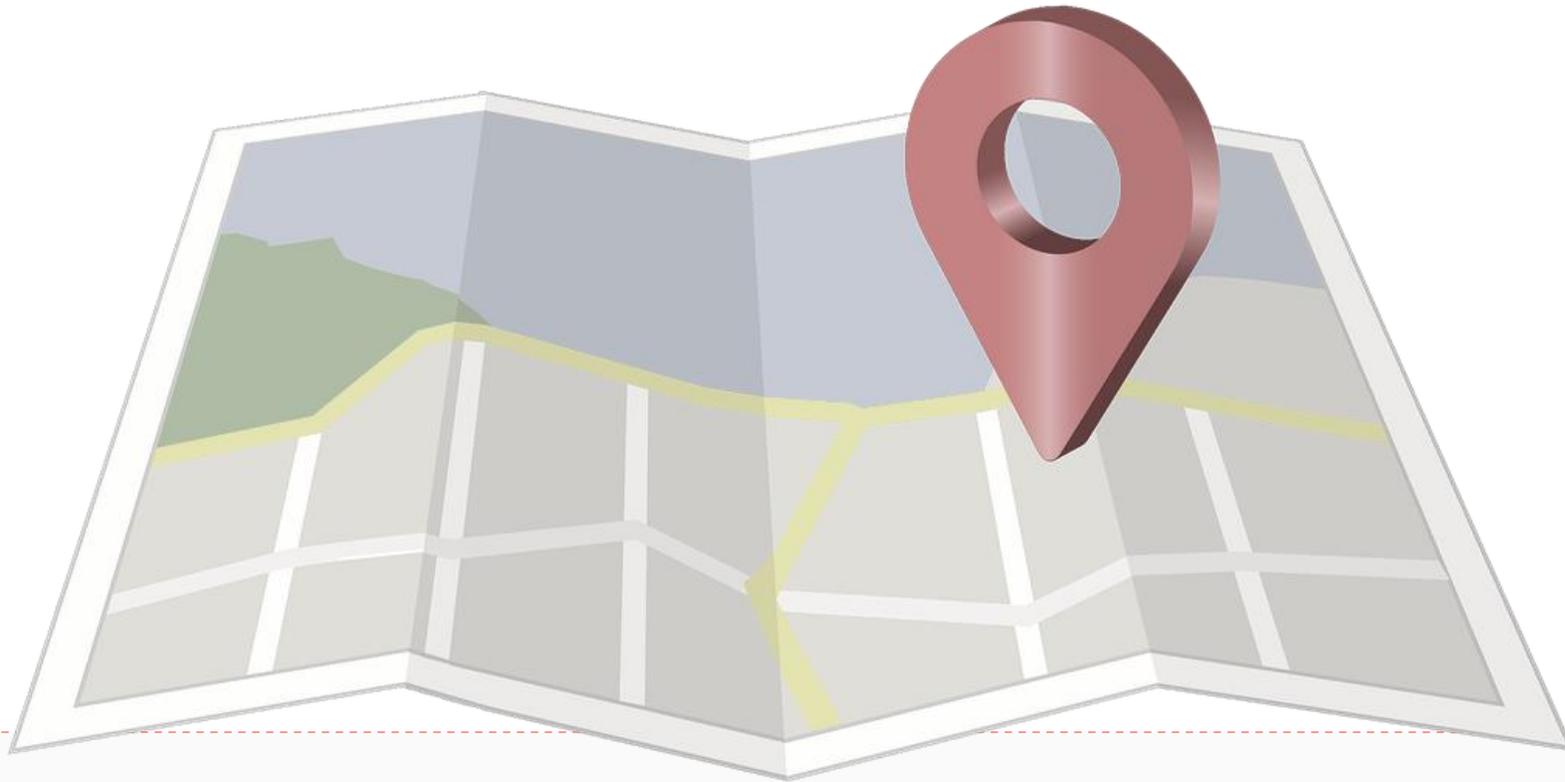
- Content rely on a Delphi-study and on the ERS statement, guideline, and Monograph on TUS
- One meeting a year where we go through course programs from all sites, issues, challenges, changes...
- Mandatory to include faculty from other centres
- Overlap when including new faculty from own institution
- Faculty from all centres represented in the OSCE as examiners



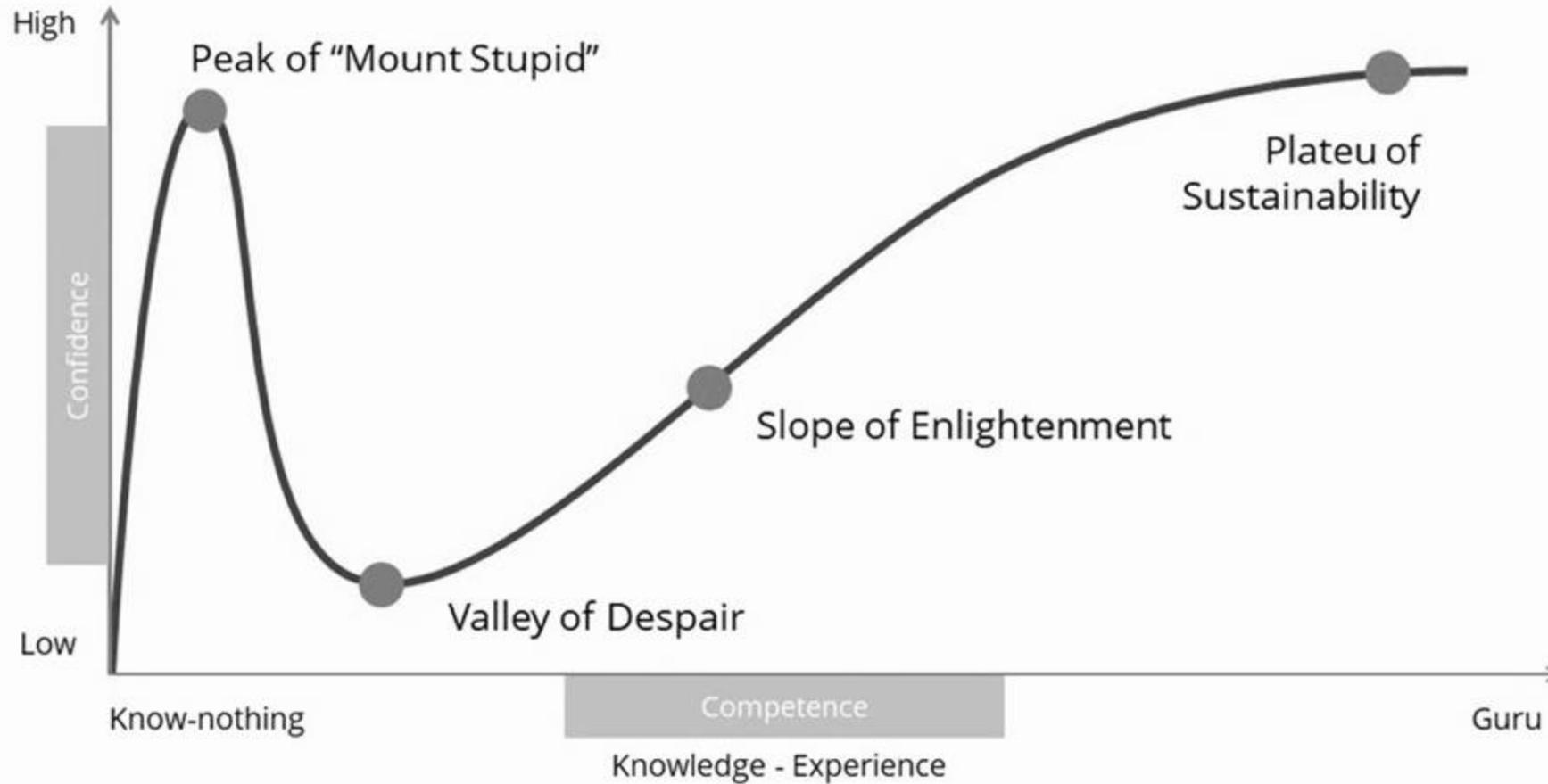
# Standardizing on an individual level

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*We standardize competence by individualising the learning journey*



## Dunning-Kruger Effect Curve



# Method of feedback/ supervision affect the learning journey



Method of feedback/ supervision affect the learning journey

REFLECTION



# Method of feedback/ supervision affect the learning journey

- Who is your trainee?
- What does the trainee carry from previous learning experience?
- What is the culture and colours of his/her origin?



# Method of feedback/ supervision affect the learning journey

## **Feedback sandwich model** (MK Ash, 1970s-1980s)

Core idea is *praise, constructive criticism, praise*. Easy and quick to apply.

Limitations: simplifies complex feedback, does not promote much reflection. Anxiety of “what comes next...?”

Use: Useful for novice teachers but not for advanced learners.

## **Feedback dialogue model** (Boud, Molloy 2013)

Core idea is to avoid feedback as *information transmission* but to create feedback as an interactive process aimed to develop understanding, self-evaluation, and future improvement. Two-way process.

Limitations: Needs well-prepared/trained teachers, that can structure the dialogue

Use: Good in complex tasks, e.g., overall IUS incl. communication (from door to door)

# Method of feedback/ supervision affect the learning journey

**Supervisor:** “You handled the patient’s questions well. What do you think went well in your communication?”

**Trainee:** “I think I kept my explanations and answers simple, but I wasn’t sure if the patient understood everything.”

**Supervisor:** “Good observation. How might you check understanding next time?”

**Trainee:** “Maybe by asking the patient to summarize in their own words?”

**Supervisor:** “Excellent idea — let’s try that approach in your next patient.”

# Method of feedback/ supervision affect the learning journey

**R2C2 model** (Sargeant 2015):

Includes four aspects *Relationship – Reaction – Content – Coaching for change*. Build a trustfull and psychological safe setting and environment. Explore learner's response to feedback, discuss feedback details and content, and co-constructing an action plan for future development.

Limitations: time and a trained teacher.

Use: complex clinically-based learning and e.g., underperforming learners

# Method of feedback/ supervision affect the learning journey

**Supervisor:** “Before we look at the assessment data, how have you felt about your progress in the ultrasound examinations?” (*Relationship*)

**Trainee:** “I think it’s been going okay, but I struggle with time management.”

**Supervisor:** “That’s helpful to know. When you saw your last assessment results, what stood out to you?” (*Reaction*)

**Trainee:** “I was surprised the nurses/ radiographers/ .... mentioned I seem distracted.”

**Supervisor:** “Let’s explore that. Can you think of situations where that might have happened?” (*Content*)

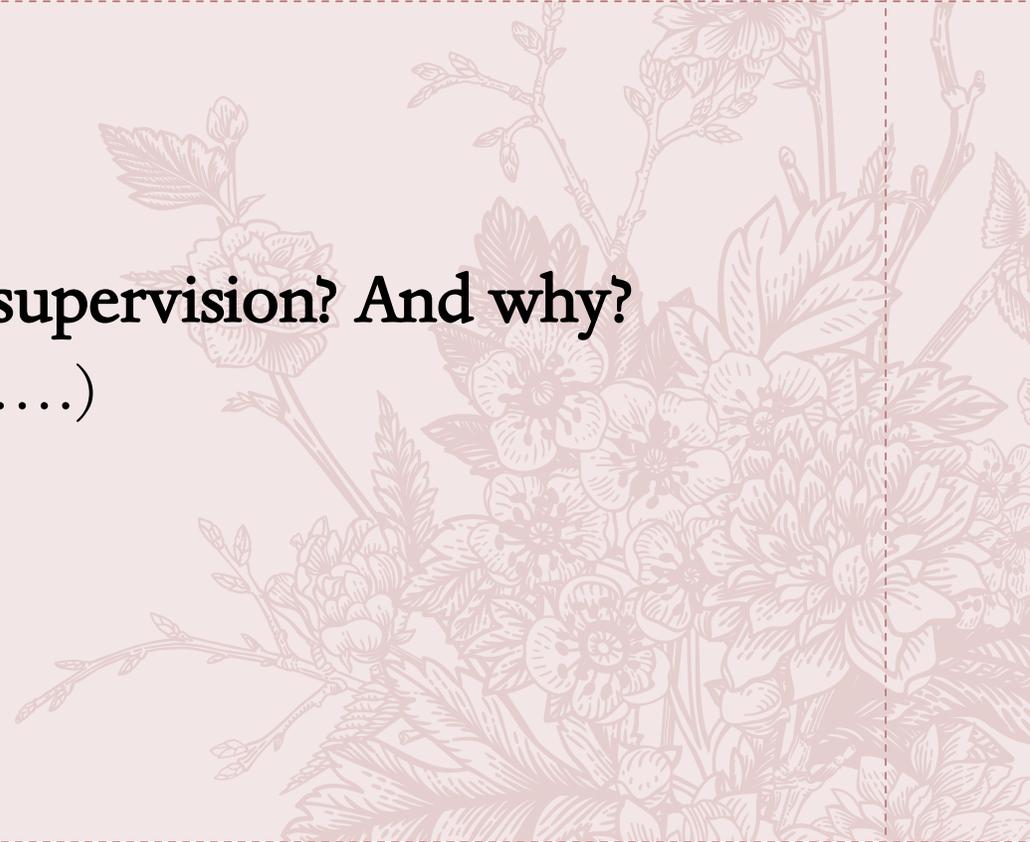
**Trainee:** “Probably when I was thinking about my next patient.”

**Supervisor:** “That’s insightful. What’s one small change you could try next week to stay more present with each patient and examination?” (*Coaching for Change*)

*Reflection and discussion*

**What is your preferred way of giving feedback/supervision? And why?**  
(e.g., in person, using assessment tools, written....)

**What if the trainee is not doing as expected?**



Assessment, assessment,  
assessment....



Assessment, assessment,  
assessment....

... also a way of  
feedback/supervision

formative and/ or summative assessment

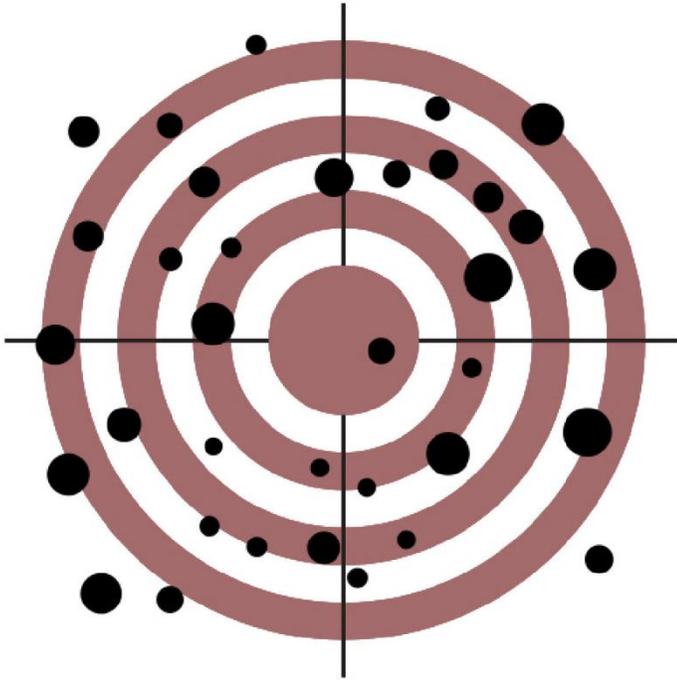


What creates a good test and a good assessment tool ?

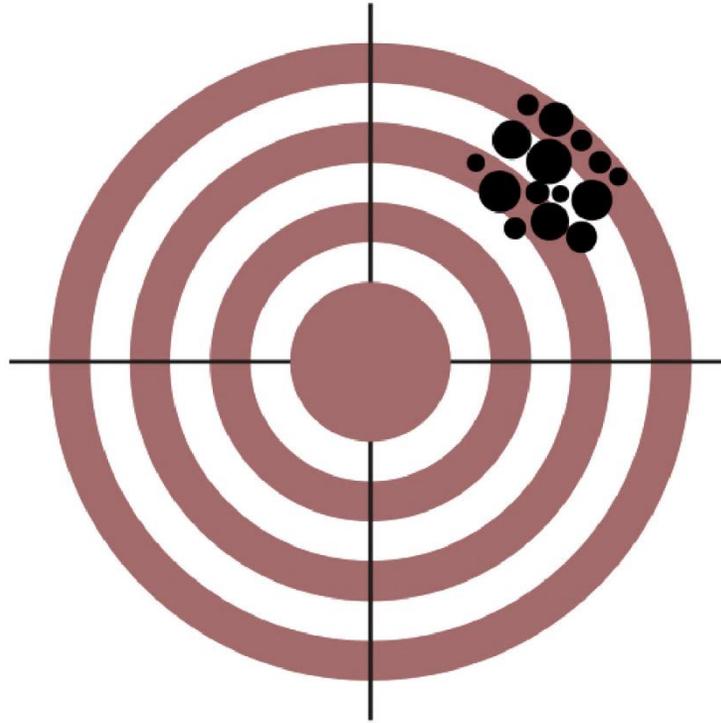
# What creates a good test and a good assessment tool ?

To be able to distinguish between competent and non-competent trainees

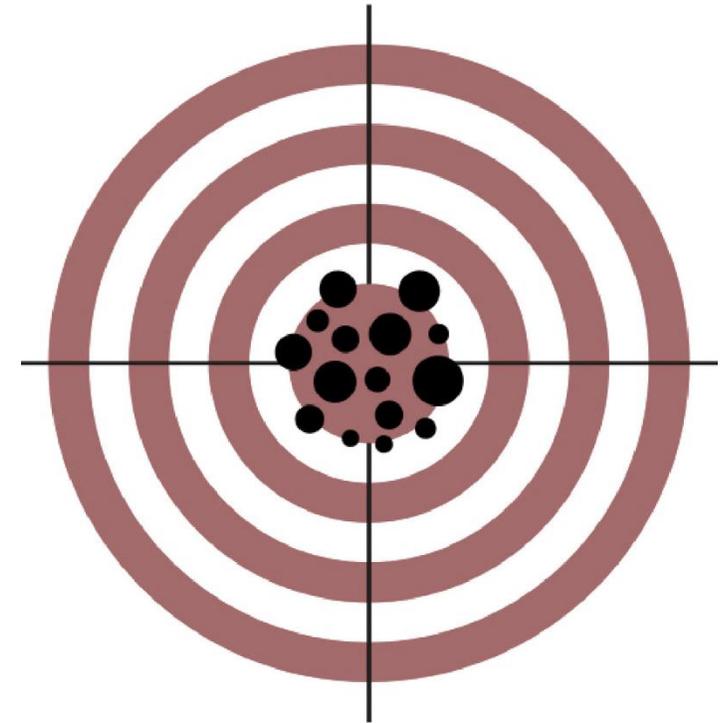
# What creates a good test and a good assessment tool ?



Not reliable,  
not valid



Reliable,  
not valid

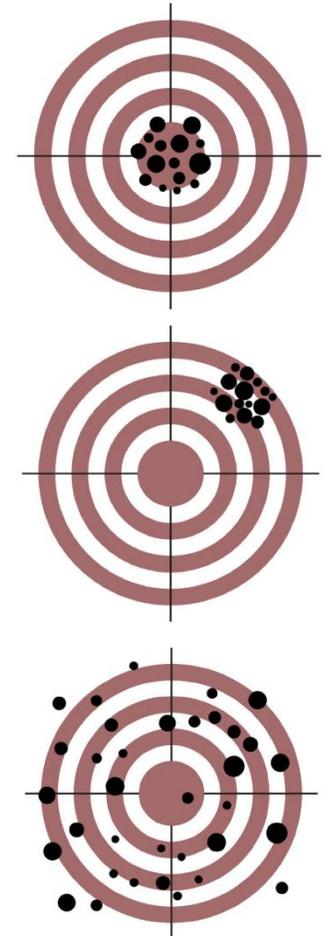


Reliable and  
valid

To be able to distinguish between competent and non-competent trainees

What creates a good test and a good assessment tool ?

Reliability and validity are not dichotomous !

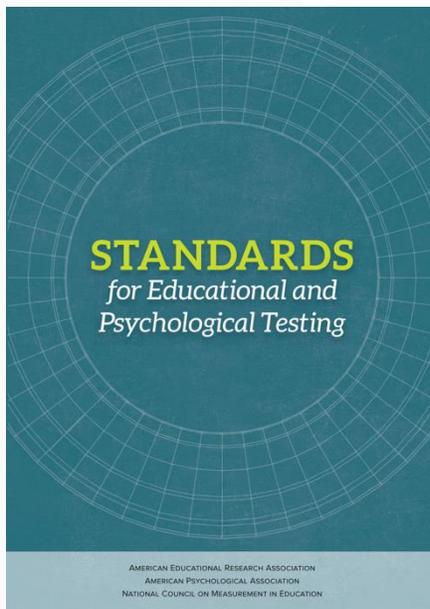
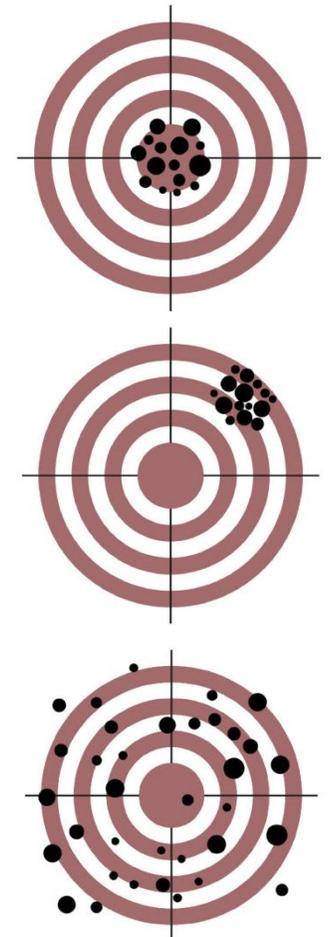


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Reliability and validity are not dichotomous !

“Validity” by Samuel Messick, 1987

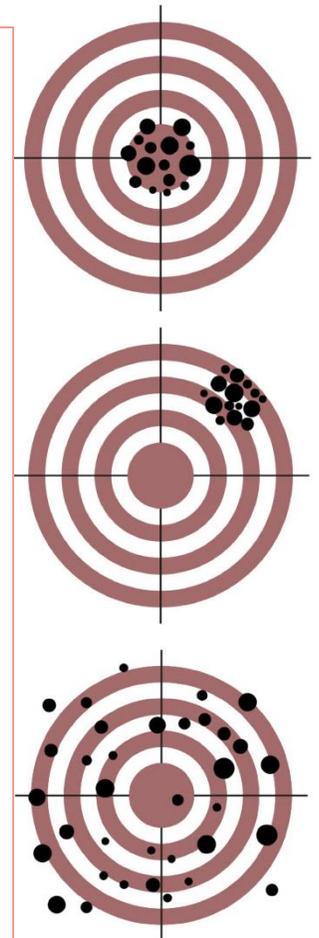
- *Content*
- *Response process*
- *Internal structure* \*
- *Relationship to other variables* \*
- *Consequences* \*



American Educational Research Association  
 American Psychological Association  
 National Council on Measurement in Education

# What creates a good test and a good assessment tool ?

Source of evidence	Description	Plan	Analysis
Content	Ensure that the test contents reflect what it is intended to measure	Experts' determination of content in conjunction with international guidelines, Delphi methods, until consensus of items is reached	-
Response process	Ensure uniformity and control of the response process and minimize assessment bias	Standardized written information and answer sheet, same instructor for all completions	-
Internal structure	Relationship between data items within the instrument and underlying construct	Calculate internal consistency reliability	Cronbach's alpha and intra-class correlation coefficient
Relationship to other variables	Extent to which assessment results relate to other variables	Compare the scores between the groups (novices, intermediates, experienced)	ANOVA with Bonferroni correction
Consequences	Evidence pertaining to intended and unintended consequences of passing and failing	Establish a pass/fail score and explore consequences of this score in terms of false positives and false negatives	Contrasting groups' method



*In summary, we discussed:*



How standardization of educational programmes is important on a society / international level

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How standardization of educational programmes is important on a society / international level



But... that standardization also means individualizing on a trainee level

*In summary, we discussed:*



How standardization of educational programmes is important on a society / international level



But... that standardization also means individualizing on a trainee level



Method of feedback / supervision affects learning journey

*In summary, we discussed:*



How standardization of educational programmes is important on a society / international level



But... that standardization also means individualizing on a trainee level



Method of feedback / supervision affects learning journey

Assessment and assessment tools can assist your feedback



Thank you for your  
attention

