

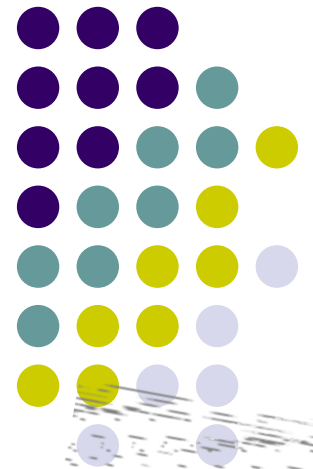
Assessment and Evaluation in Clinical Practice

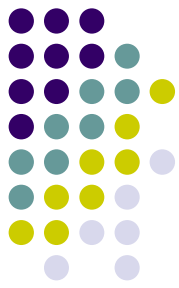
Mohamed Nadzri Mohd Yusoff (Hj.)

MSc. Medical Imaging (Aus)

BSc.(Hons)Diagnostic Radiography (UK)

Cert.Diploma Radiography (M'sia)

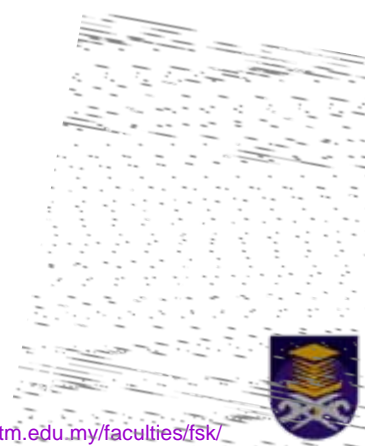




Introduction

“.... high quality clinical education and training is key to the provision of safe and effective practice in health science programs.”

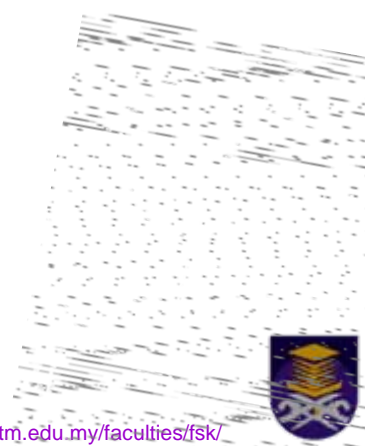
(Anglia Polytechnic University, 2004, UK)

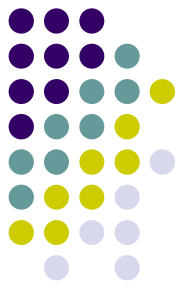




Introduction

- Just as "no man is an island unto himself", no health professional program can exist by itself within the walls of academia.
- The clinical practice/education portion of the program and the cooperation of the clinical staff(s) are just as important to the ultimate success of the graduate.





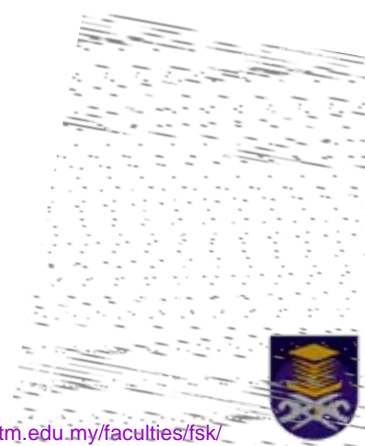
Introduction

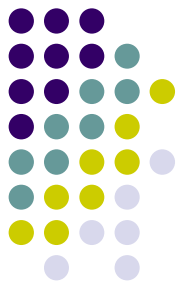
Testing

Measurement

Evaluation

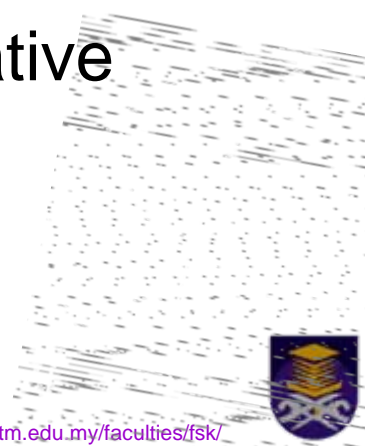
- Parts of teaching and learning process
- Each possess different intepretation
- But closely related

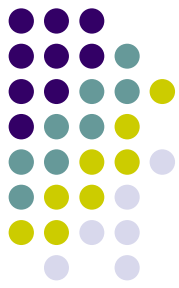




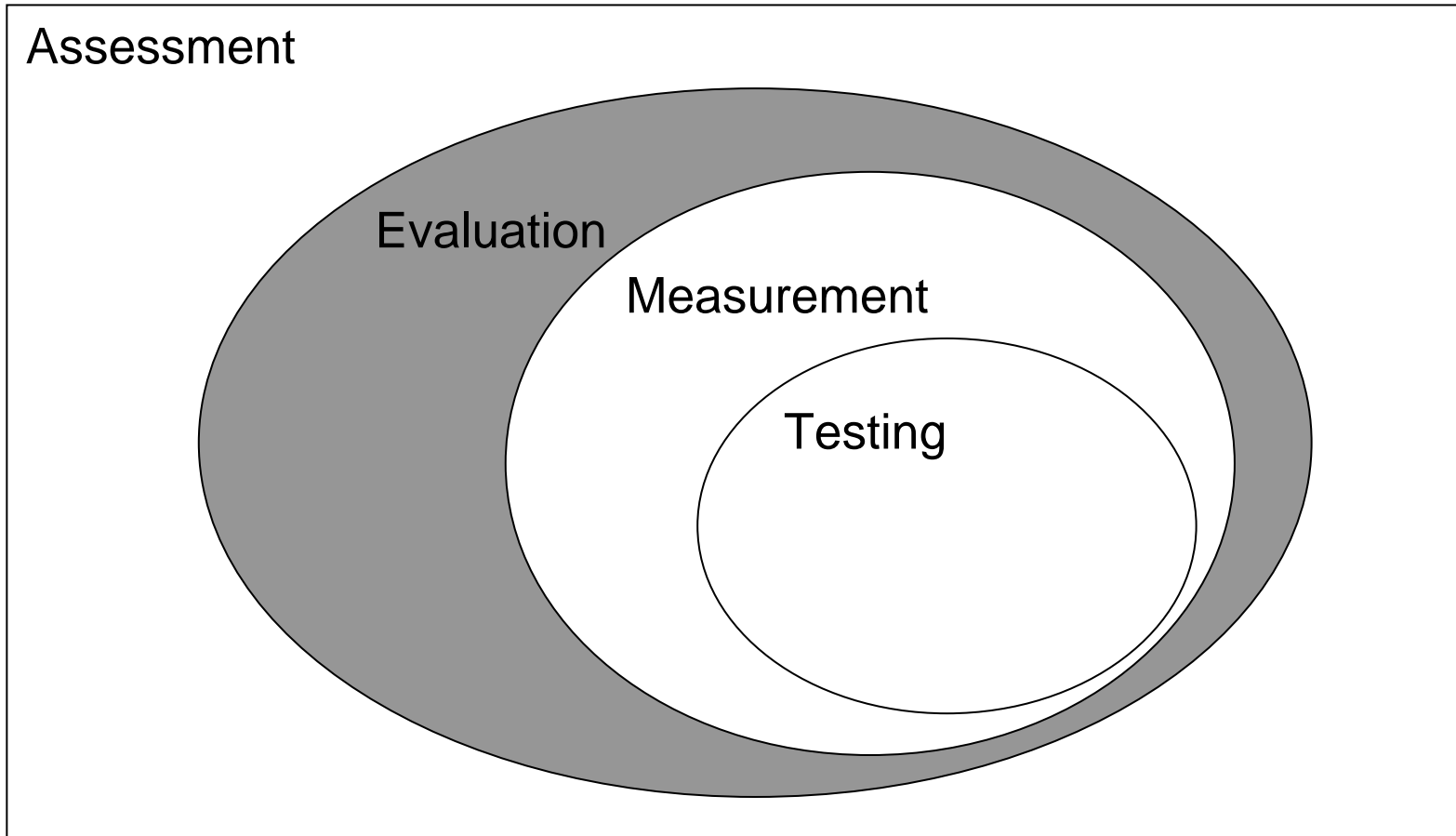
Terminologies & Definitions

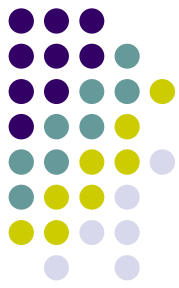
- **Assessment** – collection of evidence
- **Evaluation** – process to determine, obtain and provide useful information so as to make objective consideration for follow-up actions
- **Testing** – systematic way to measure changes. A test is a measuring instrument to obtain information
- **Measurement** – process or system to determine QUANTITATIVE VALUE of a test. A quantitative process expressed in a fixed unit of number.



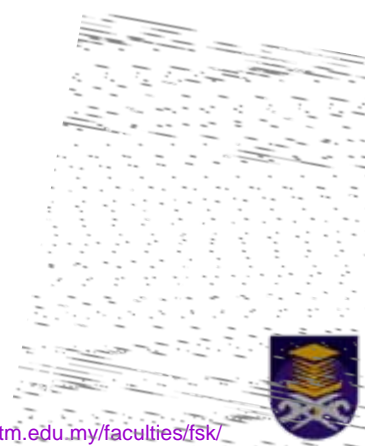
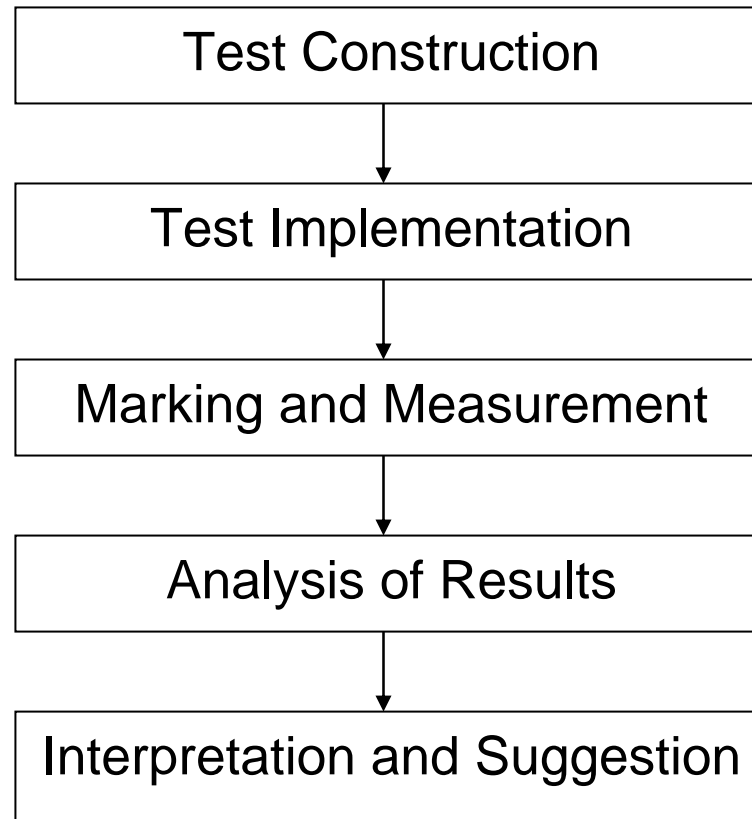


Relationships





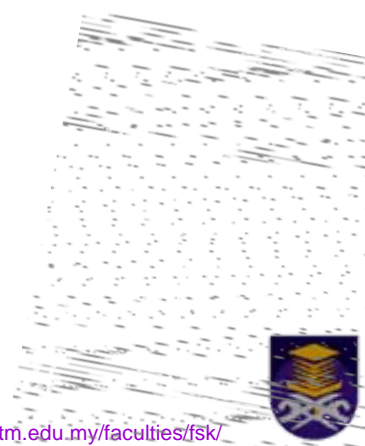
Stages of Evaluation





Assessment & Evaluation

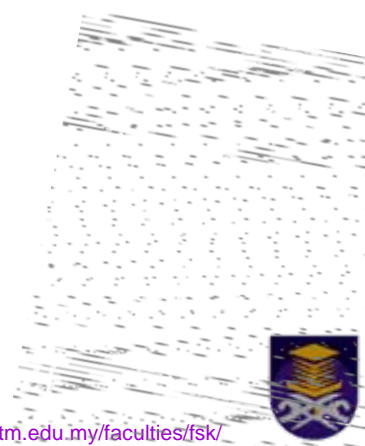
- Why
- What
- How
- Where
- When
- Who





Why do we evaluate?

- Evaluation is a critical function of the role of “teacher”.
- you are expected to evaluate the learners that you teach.
- Many preceptors volunteer their time and energy to teach in the community because of a sense of wanting to return something to the profession and to play a role in the future of health care.
- Accurate and meaningful evaluation is a key component of that role.

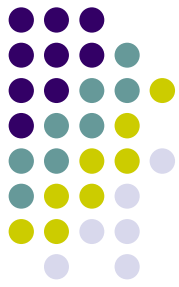




Why do we evaluate?

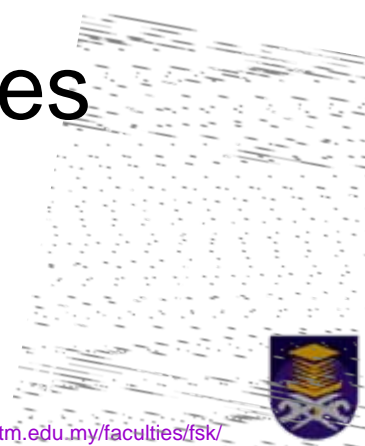
- By evaluating learners, you are helping to judge future members of your profession to see if they possess the appropriate knowledge, attitudes, and skills for their level of training.
- Your evaluation is important to the faculty or program to make decisions regarding advancement, promotion, and licensing based (in part) on your evaluation.
- You are also modeling for the learner how to assess their current strengths and weaknesses in order to continue their professional growth and development.

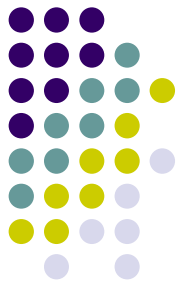




Why do we evaluate?

- To direct and stimulate learning
- To assess competence
- To provide feedback
- To provide career guidance
- For promotion and progression
- To rank order for selection purposes
- Society demands it

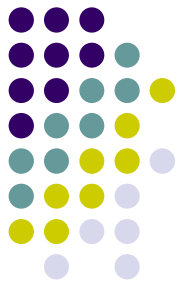




Why do we evaluate?

- To direct and stimulate learning
- To assess competence
- To provide feedback
- To provide career guidance
- For promotion and progression
 - the one that causes the institution the most problems
 - feedback (or lack of it) is the one that students have the most problems





What is feedback?

- Is essential to formative evaluation.
- is information that a system uses to make adjustments in reaching a goal.
- In clinical precepting - involves informing learners of your perceptions of their performance and suggestions for improving their performance.
- occurs when a student is given insight by the preceptor into what he or she actually did as well as the consequences of that action.



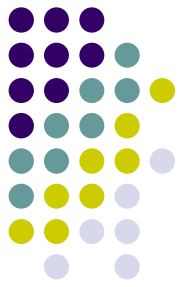


What is feedback?

- is formative rather than judgmental in nature.
- In giving feedback, the preceptor serves as the mirror: providing information to the learner about the desired behavior, the actual observed behavior, and any dissonance that might exist between the two.
- Shared and clearly understood expectations and goals are a prerequisite for providing feedback.

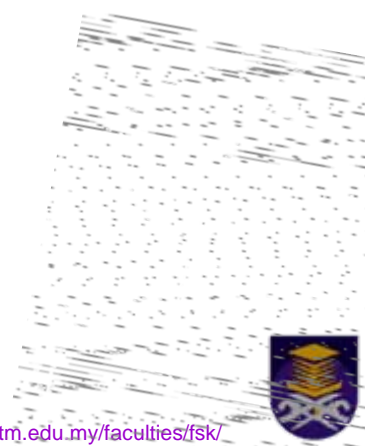


Why
What
How
Where
When
Who

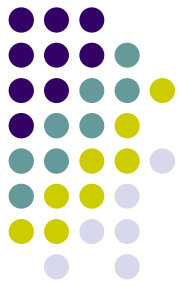


What is feedback

- Feedback should be :
 - TIMELY
 - RELEVANT
 - PRECISE
 - CONCISE
 - FIRSTHAND
 - CONSTRUCTIVE
 - SUPPORTIVE



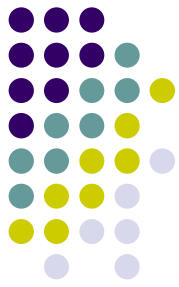
Why
What
How
Where
When
Who



Comparing Feedback and Evaluation

	FEEDBACK	EVALUATION
Timing	Timely	Scheduled
Setting	Informal	Formal
Basis	Observation	Observation
Content	Objective	Objective
Scope	Specific Actions	Global Performance
Purpose	Improvement	“Grading” & Improvement



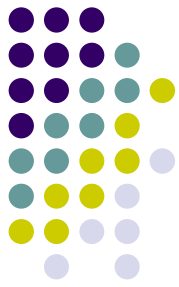


Clinical Practice

- An academic course structure must have:
 - learning objectives / outcomes
 - teaching method
 - assessment
- Relating learning objectives with teaching method is as important as
- Relating learning objectives with method of assessment

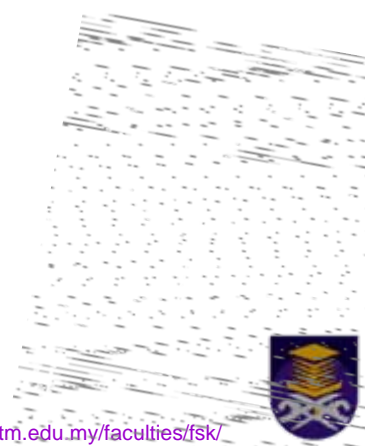


Why
What
How
Where
When
Who



Clinical Practice

- Clinical Practice/ Education/ Experience/ Professional Studies courses
 - combine the academic **theory** with the **practical application** within the clinical setting.

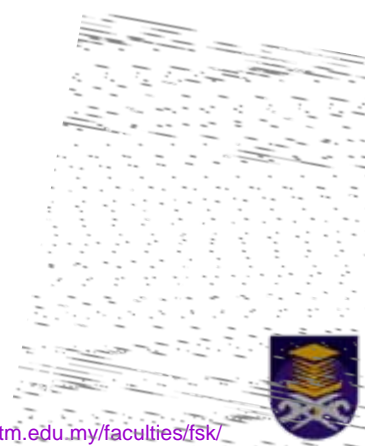


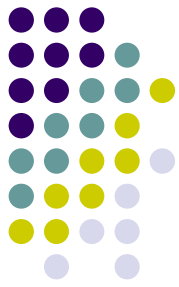


Clinical Practice

In **CLINICAL PRACTICE**,

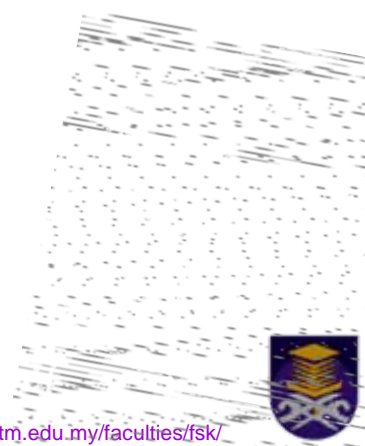
- scheme of assessment should be:
 - designed to reflect integration of theory and practice,
 - facilitate a progressive approach towards **clinical competence** and **proficiency**.

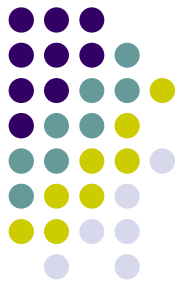




Clinical Competence

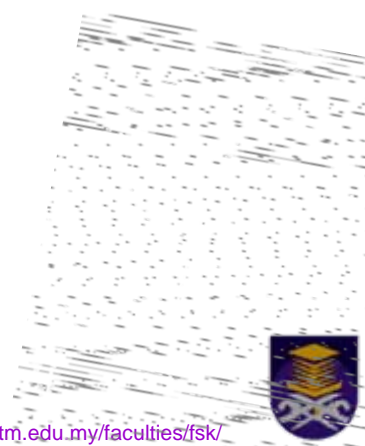
- enables an individual/group, to:
 - perform a role or set of tasks, to -
 - an appropriate level, grade, quality or achievement,
- thus making the individual/group competent in that role.





Clinical Competence

- Have variety of meanings
- As such some academics adopt a narrow definition which focuses on
 - psychomotor skills and
 - vocational training.

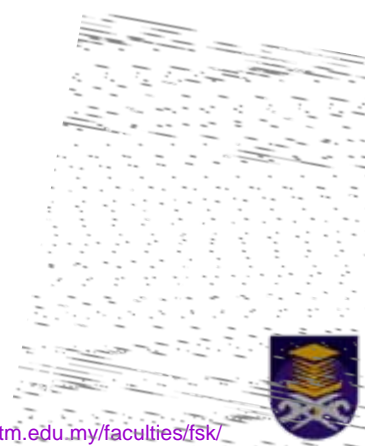


Why
What
How
Where
When
Who



Clinical Competence

- Competence, however, is a complex concept that encompasses such attributes as
 - knowledge,
 - skills and
 - attitudes.

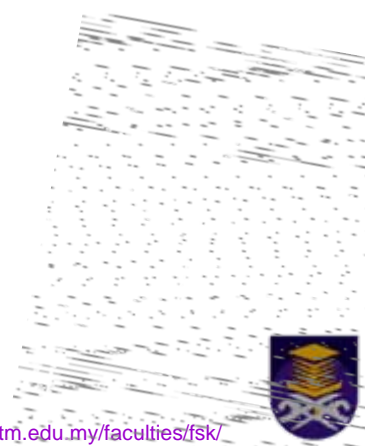


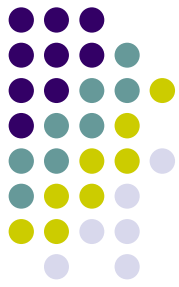
Why
What
How
Where
When
Who



Knowledge

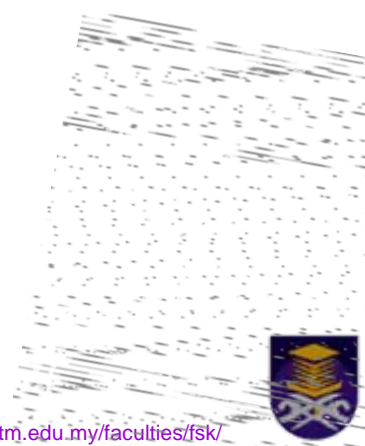
- information stored in the learner's mind.
 - either they have or they do not.

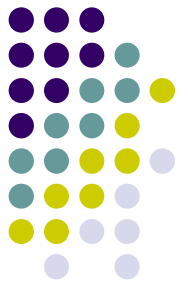




Skills

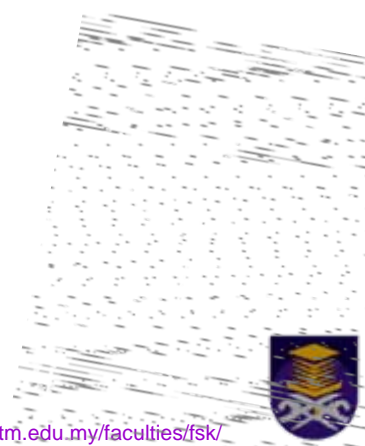
- actions (and reactions) which a person performs in a competent way in order to achieve a goal.
- one may have:
 - ◆ no skill
 - ◆ complete skill
 - ◆ some skill
- mastery must be set



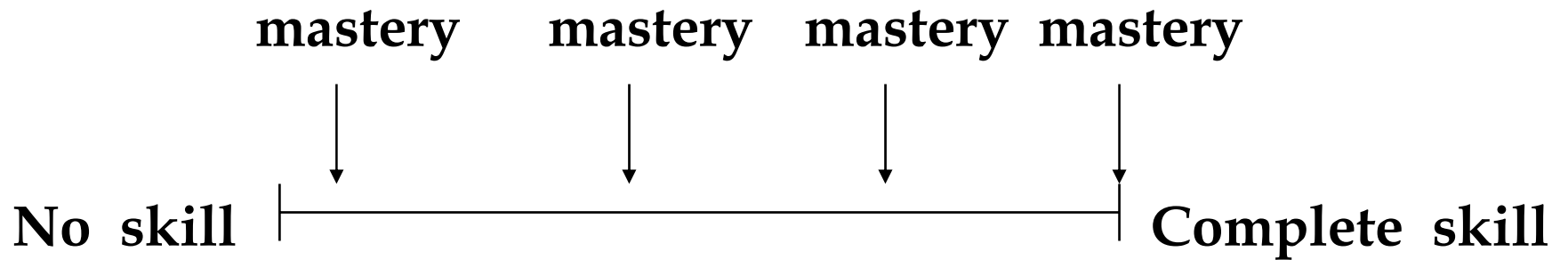


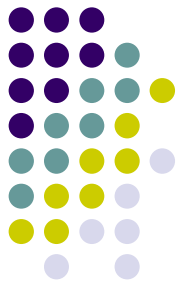
Skills

- Failure to master a skill
 - wrong perception of the stimulus
 - inability to recall the prerequisites
 - inability to plan
 - inability to perform



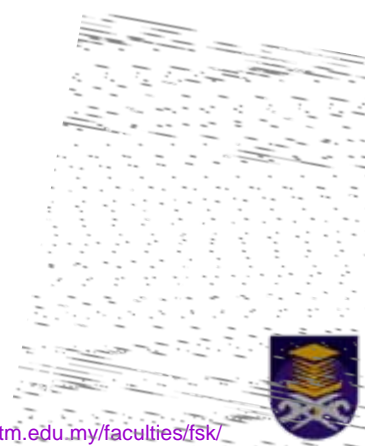
Skills





Attitude

- a feeling about an object, concept or idea which may be based on knowledge and experience, and which results in an **action tendency** (positive or negative) towards that object, concept or idea.

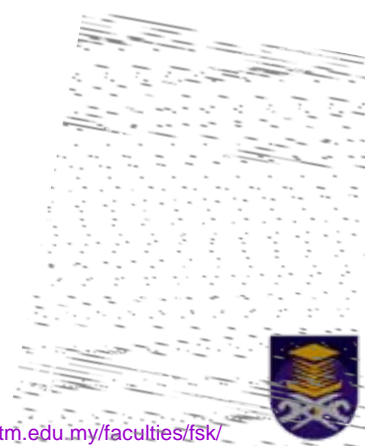




How should we do it?

- **Types of Assessment:**
 - Formative
 - Summative
 - Performance-based
 - Pencil and Paper
 - Speed and Endurance
 - Norm-based
 - Criterion-based
 - Diagnostic

All of them are TESTS!

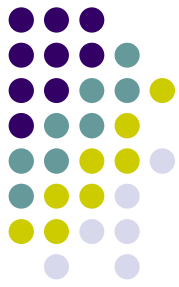


**Examinations are the
report of the external
auditor.**

Robert Maudsley

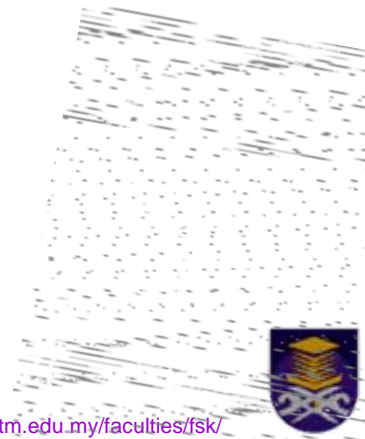
**As with all businesses,
both good bookkeeping
and external audit are
required to keep
it honest.**

Robert Maudsley



How should we do it?

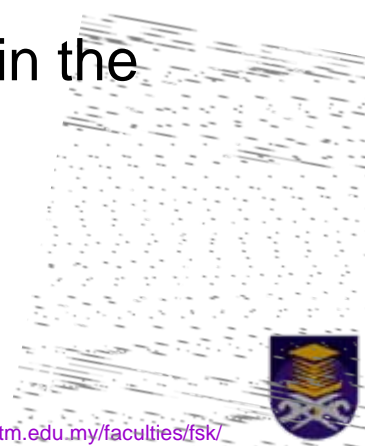
- Methods used for Assessment:
 - Essay
 - Short-answer
 - Structured (written)
 - Objective (multiple choice, true-false)
 - Direct observation
 - Oral
 - Structured (practical, clinical - OSCE)

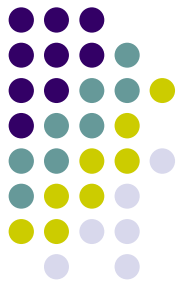




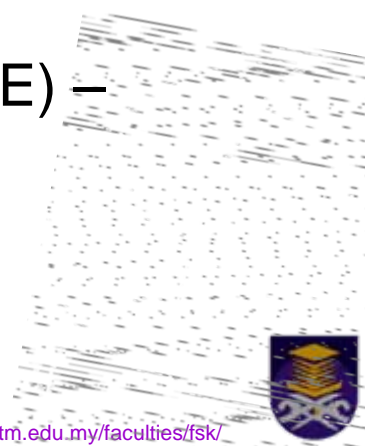
Criteria of a Test

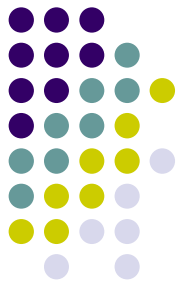
- **Validity**
 - Is it measuring what it is suppose to measure?
 - The assessment must sample the capability of the student according to the learning objectives.
- **Reliability**
 - Is it giving consistent result?
 - The assessment should have consistent marking scheme.
- **Practicality**
 - Is it practical in the form of time and resources?
 - The assessment should be able to be carried out in the least amount of time. (Newble, 1994)





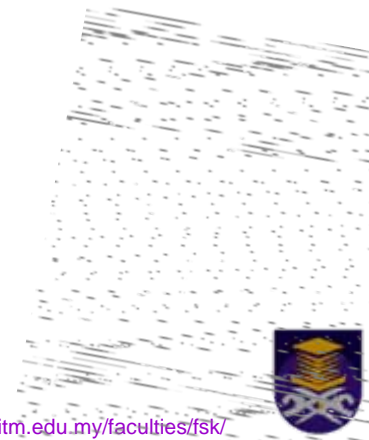
- Testing clinical skills now can be reliable and valid:
 - Generalisability theory –
 - reproducibility of measurement
 - single-judge:multicase,single-case:multijudges
 - adequate sampling
 - Standardised patients (people) –
 - reproducibility and consistency of scenarios
 - standardisation of cases
 - Objective Structured Clinical Examination (OSCE) –
 - wide sampling
 - structured assessments



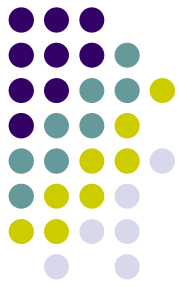


Choosing a test method

- Choose whichever test method that best tests, what it is that you want to test — *learning objectives*.
- Use the format that can most cost effectively apply to the test method.



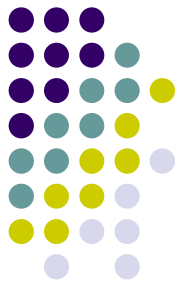
Why
What
How
Where
When
Who



Reminder!!!

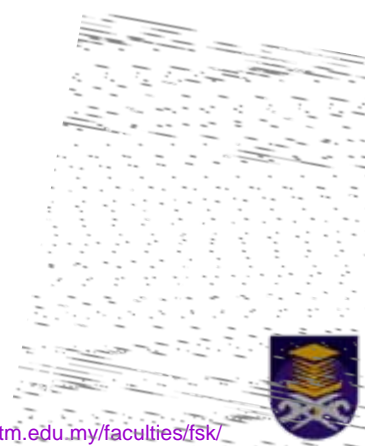
**NO SINGLE EVALUATION METHOD CAN
MEASURE ALL OBJECTIVES**

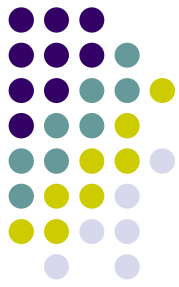




Direct Observation

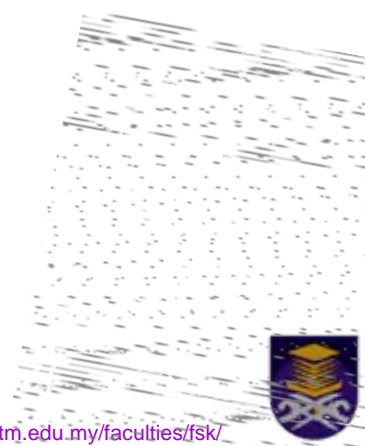
- most valid assessment of clinical competency
 - technical skills or interpersonal skills in the real clinical settings or simulation
- complex interpersonal skills, for example patient-practitioner relation, counseling ability; which doesn't have other alternative form of assessment. (Neufeld, 1985)
- However, reliability is low!

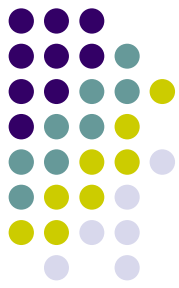




Direct Observation

- Reliability can be improved by:
 - improving the marking scheme,
 - improving the observers performance.



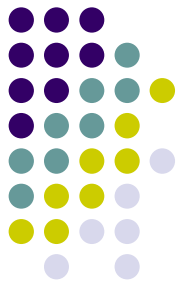


Direct Observation

How to improve observer's performance?

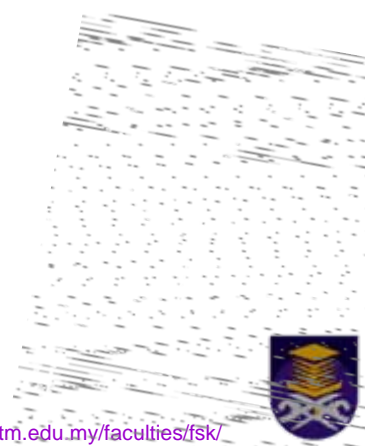
- observers be trained to improve reliability
- workshop or a complete briefing on the scale form must be held
- not supposed to evaluate performances of students' who are not under their supervision.
- dedicated and committed clinical preceptor is the best option.

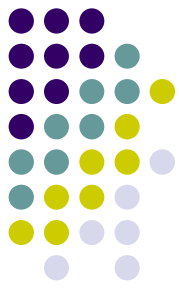




Checklist

- Checklist is a scale with 2 points of grading.
 - enough/ not enough; satisfactory/ unsatisfactory, done / not done, etc
- If every component or item has been clearly defined and observable, then the checklist becomes a reliable tool.

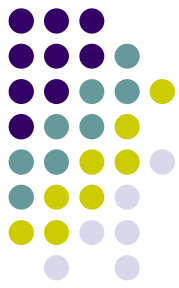




Scale Form

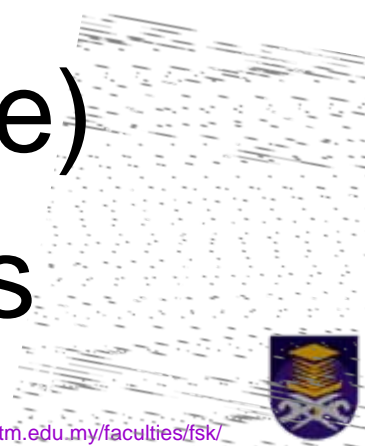
- the main characteristic of this form
 - evaluation base on a continuous scale or rank scale.
 - used widely to evaluate attitude or performance
- validity - can be improved by having descriptive scale which helps to define the standards that the observer should refer to.
- preferred by experienced clinical examiners because it provides a means of identifying general expectations in a set of standards.





What are the problems?

- Clear usable objectives
- Reliability and validity
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities





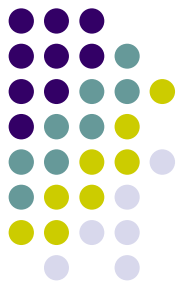
What are the problems?

- Clear usable objectives
- Reliability and validity
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities

OBJECTIVES

- What you want them to be able to do - not know
- We will probably never be able to write objectives that satisfy everyone - but we must always continue to try
 - -for objectives are the foundation of all valid testing



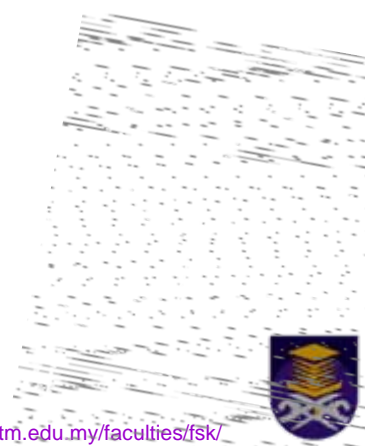


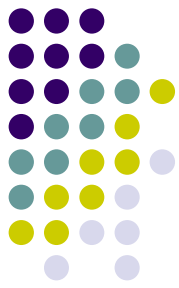
What are the problems?

- Clear usable objectives
- **Reliability and validity**
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities

VALIDITY vs RELIABILITY

- **VALID**
 - does it test what it is that you want it to test?
- **RELIABLE**
 - would the results be reproducible?
- **PRACTICAL**
 - time and resources?

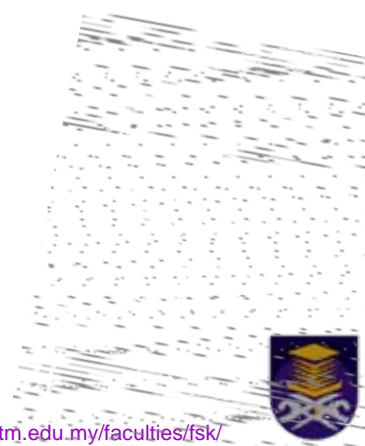
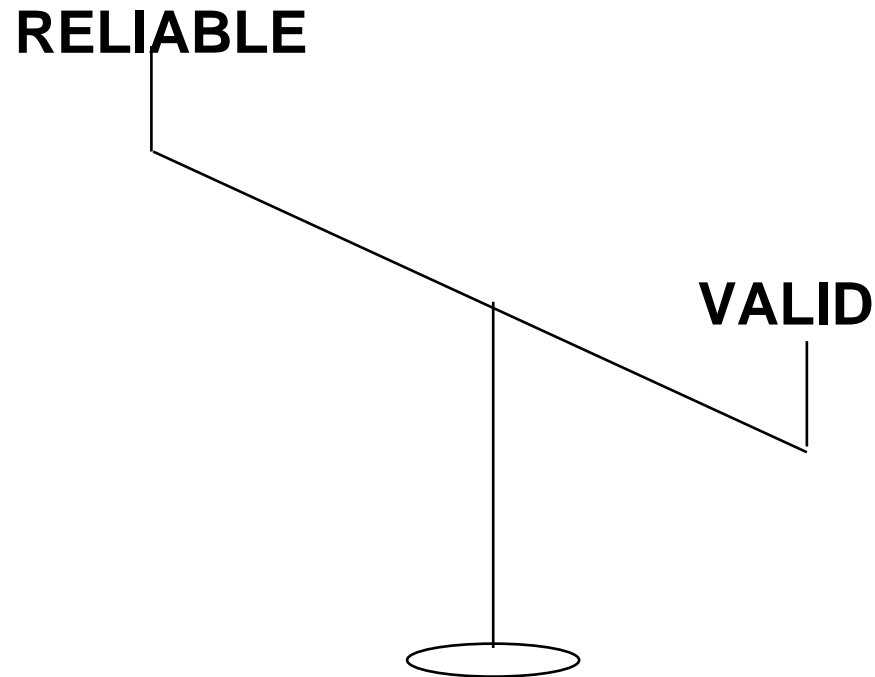


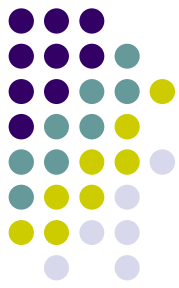


What are the problems?

- Clear usable objectives
- **Reliability and validity**
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities

VALIDITY vs RELIABILITY

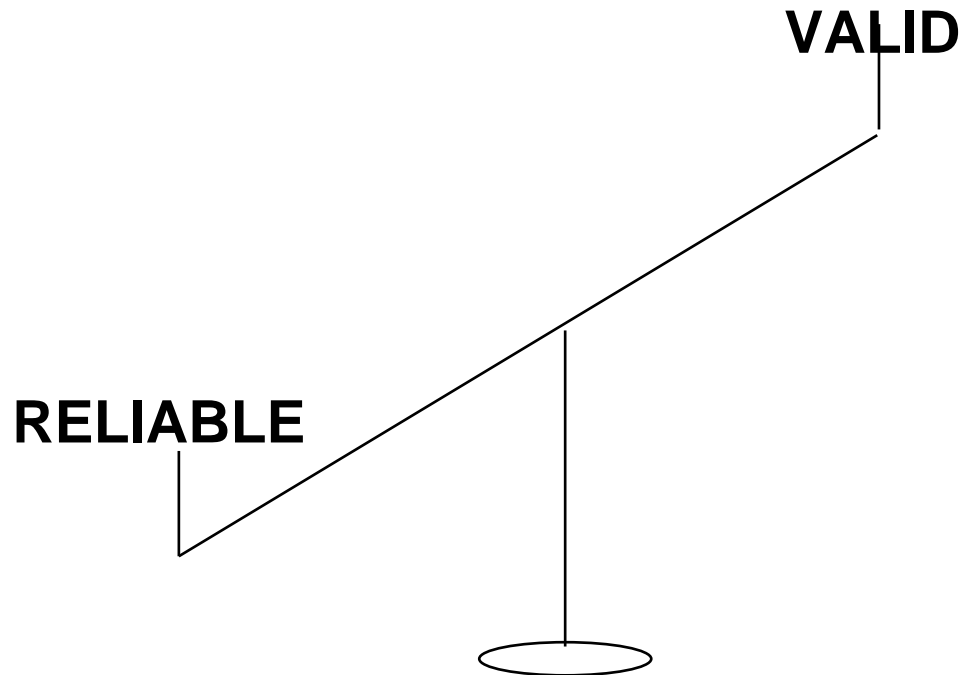




What are the problems?

- Clear usable objectives
- **Reliability and validity**
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities

VALIDITY vs RELIABILITY





What are the problems?

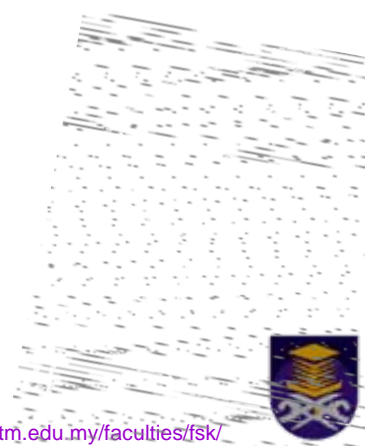
- Clear usable objectives
- **Reliability and validity**
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities

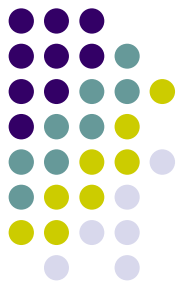
A good examination !!!

RELIABLE

VALID

PRACTICAL





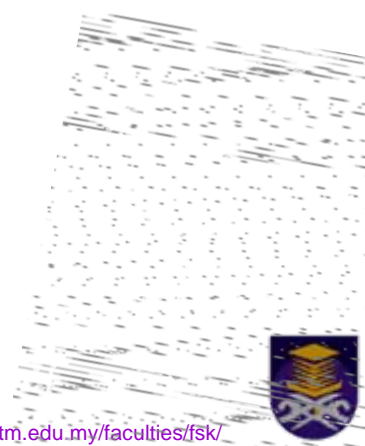
What are the problems?

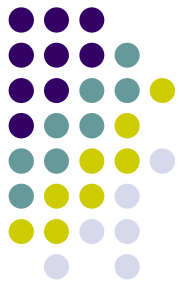
- Clear usable objectives
- Reliability and validity
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities

VALIDITY vs RELIABILITY

We will never get the ideal balance - but we must continuously strive for it

- for without it we can have no standards





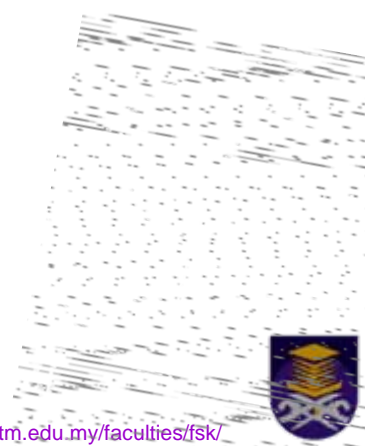
What are the problems?

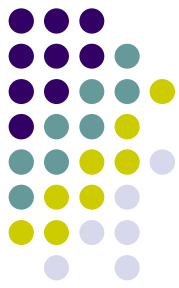
- Clear usable objectives
- Reliability and validity
- **Scoring**
- Standard setting
- Due process (natural justice)
- School and faculty priorities

SCORING

A score represents the correctness of a response or group of responses

- the difficulty lies in defining correctness





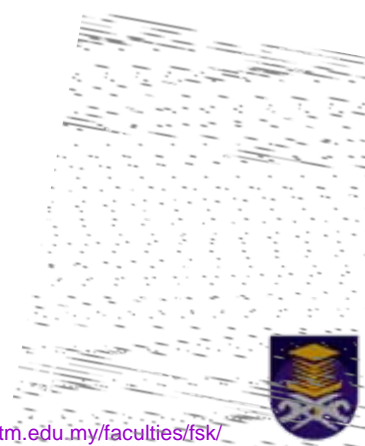
What are the problems?

- Clear usable objectives
- Reliability and validity
- **Scoring**
- Standard setting
- Due process (natural justice)
- School and faculty priorities

CLINICAL CORRECTNESS

In many complex clinical situations, it is hard to determine correctness with certainty.

Correctness of any given response or action must usually be based on the judgment of several experts.





What are the problems?

- Clear usable objectives
- Reliability and validity
- Scoring
- **Standard setting**
- Due process (natural justice)
- School and faculty priorities

STANDARD SETTING - who passes and who fails

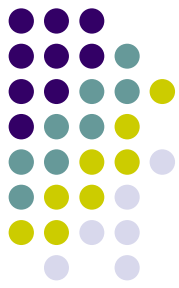
- **Relative standard**

based on how well an individual performs relative to other examinees taking the same examination

- **Absolute standard**

based on how well the examinee performs regardless of the performance of others





What are the problems?

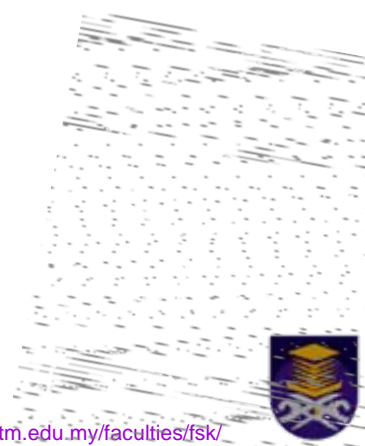
- Clear usable objectives
- Reliability and validity
- Scoring
- **Standard setting**
- Due process (natural justice)
- School and faculty priorities

STANDARD SETTING

Whenever possible we should use absolute standards

Several methods of setting absolute standards work

A few methods distinguish themselves by being more systematic and defensible



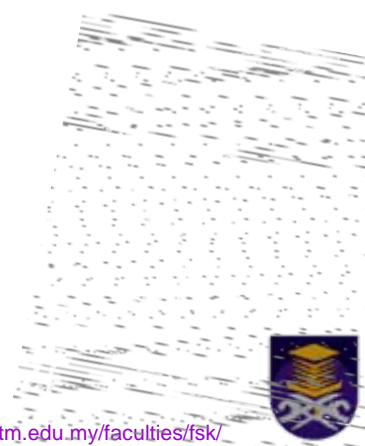


What are the problems?

- Clear usable objectives
- Reliability and validity
- Scoring
- Standard setting
- Due process (natural justice)
- School and faculty priorities

DUE PROCESS - avoiding trouble

- Make rules for evaluation
- Publish them
- Follow them



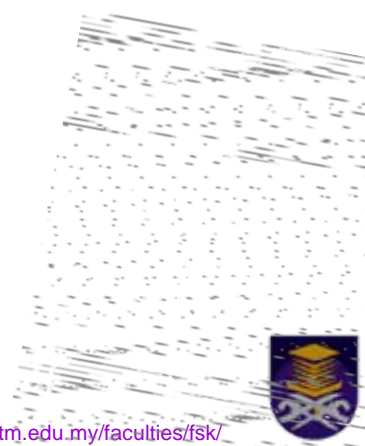


What are the problems?

- Clear usable objectives
- Reliability and validity
- Scoring
- Standard setting
- Due process (natural justice)
- **School and faculty priorities**

School and Faculty priorities

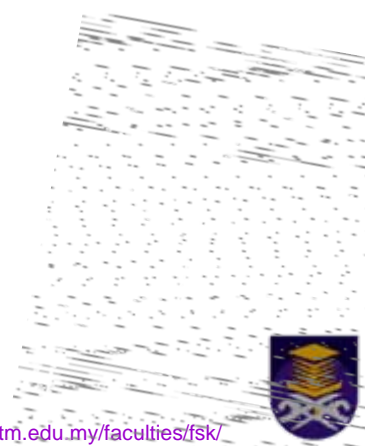
- Mission
- Vision

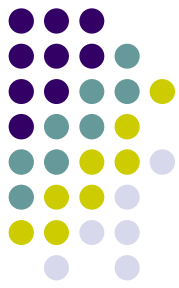


Why
What
How
Where
When
Who



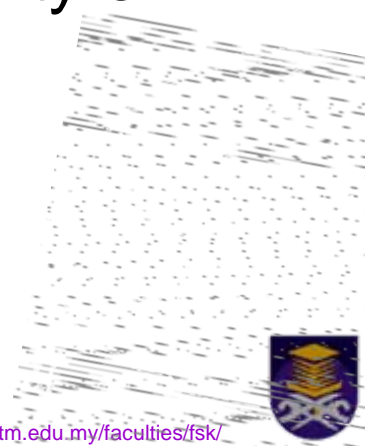
- WHEN
- WHERE
- WHO

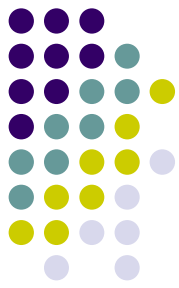




Final Thought

- Assessment of clinical competence in clinical practice involves a wide range of skills and knowledge which necessitates a more appropriate approach to ensure
 - a safe and competent worker is produced for the market
- increase the graduate's employability
(Matlamat Graduan Holistik UiTM)
- increasing the credibility, integrity and reliability of the program (Matlamat WCU UiTM)





Conclusion

- Evaluation is not just a grade!
- but a process for guiding and contributing to the growth and development of our future colleagues in the health professions.

