
Knowledge Sharing Sessions
Australian Award Fellowship 17
22nd October 2017 – 25th November 2017
Prof. San Hlaing


SYDNEY
Medicine


Australia Awards Fellowship
EXIT
SYDNEY

Title of the Training –

Making a difference; Student-centered Medical Education in Myanmar

Place of Training – Sydney Medical University, Australia

Background history of host institution

Number one in Australia

17th Worldwide in Medicine category of the 2016 QS World University Ranking.

After 20 years experience with **problem based learning**,

It is now in the transitional period to change to **Team based learning**, because former curriculum is not ready to do clinical works.

- Year 1 students are training with Team Based Learning.
- Main learning teaching method use is small group learning with excellent, well equipped learning environment.
- Cases are written around 120 core clinical problems.

Learning outcome of the training;

It is expected that fellows will be equipped with skills to help the transition from a subject-based to an outcomes-based curriculum, with full integration of the new curriculum both vertically and horizontally from year 1 to year 6.

The major focus of the fellowship is on supporting teacher training in curriculum reform.

Place &Country of the Training

Sydney Medical University

- RPA hospital (observing clinical skill training)
- Charles Perkins Centre (Attending TBL sessions, small group learning sessions, X lab)
- Royal North Shore Hospital (observation of OSCE, Clinical Skill training)

Overview of Sydney Medical Programme

Entry –postgraduate Course (Undergraduate degree - arts and science)

Duration – 4 years

Degree - MD

2 years in campus (stage 1 and 2)

2 years in clinical schools (stage 3)

Internship after graduation

Early Clinical Exposure –

- From the beginning of year 1, spend 1 day each week in clinical schools.
- Learn how to take history from a patient and perform clinical examination.
- Year 3 and 4 based in clinical schools.

Research training –

- Gain formal training in year 1 encompassing the basic principles of health and medical research, research governance and ethics and the basics of research methods in biomedical, clinical and public health.
- Student have to conduct a research project as part of the course, gaining experience in project organization and management, data analysis, oral presentation skills and scientific writing.

Admission requirement

Domestic and international applicants need to have

- A bachelor degree with a minimum credit average (6.5 or better)
- Domestic applicants need to have competitive score in GAMSAT(Graduate Australian Medical School Admission Test) (50%)
- International applicants can submit GAMSET or MCAT (Medical College Admission Test) results
- Multimini-interview (situation judgment test) (50 %)

No of student 300 students

(220 domestic, 70 international, 10 reserved for outstanding students in matriculation.)

Age of commencing – 24 years

Curriculum development project

Participants were divided into 5 groups and a sample curriculum for a core clinical problem in cardiovascular module was developed. Assigned task for each group was as follows;

Group 1 Faculty development and planning

Group 2 Developing learning outcomes

Group 3 Learning contents

Group 4 Learning teaching methods

Group 5 **Assessment**

Team Based Learning (TBL)
Sydney Medical Program

Team Based Learning

- Effective method for large groups of students to have a small group learning experience
- Could be used in large group settings (80-100 students)
- Large group divided into 7 to 10 students per group
- Use the same case and process in all groups at multiple rooms
- Requirements – rooms, 2-3 facilitators per class
- Steps in TBL motivate and engage students
- Efficient use of faculty resources

What is Team-Based Learning (TBL)?

- Active
- Small groups
- Specific steps
- Individual & team work
- Immediate feedback
- Resource efficient

TBL Course Design

Five Key Steps

1. Group Allocation
2. Pre-class preparation
3. Readiness assurance tests
4. Immediate feedback
5. Problem solving activities

1. Group Allocation

One Group= 7 – 10 students

2. Pre-class preparation

- Pre-recorded lecture
- Specified reading
- Notes provited

Facilitation by experts

"Having the experts available in the room and giving us ***proper information*** *and case studies and talking About* ***their experiences in the clinic*** *-much better than the tutors in* ***PBL****"*

3. Readiness Assurance Tests(RAT)

3a) Individual Test(iRAT) 10mins

- 10 questions

- Multiple choice (A-E)

- SBA

3b) Team test (tRAT) 20mins

- A-E
- First attempt ✓ = 4 point

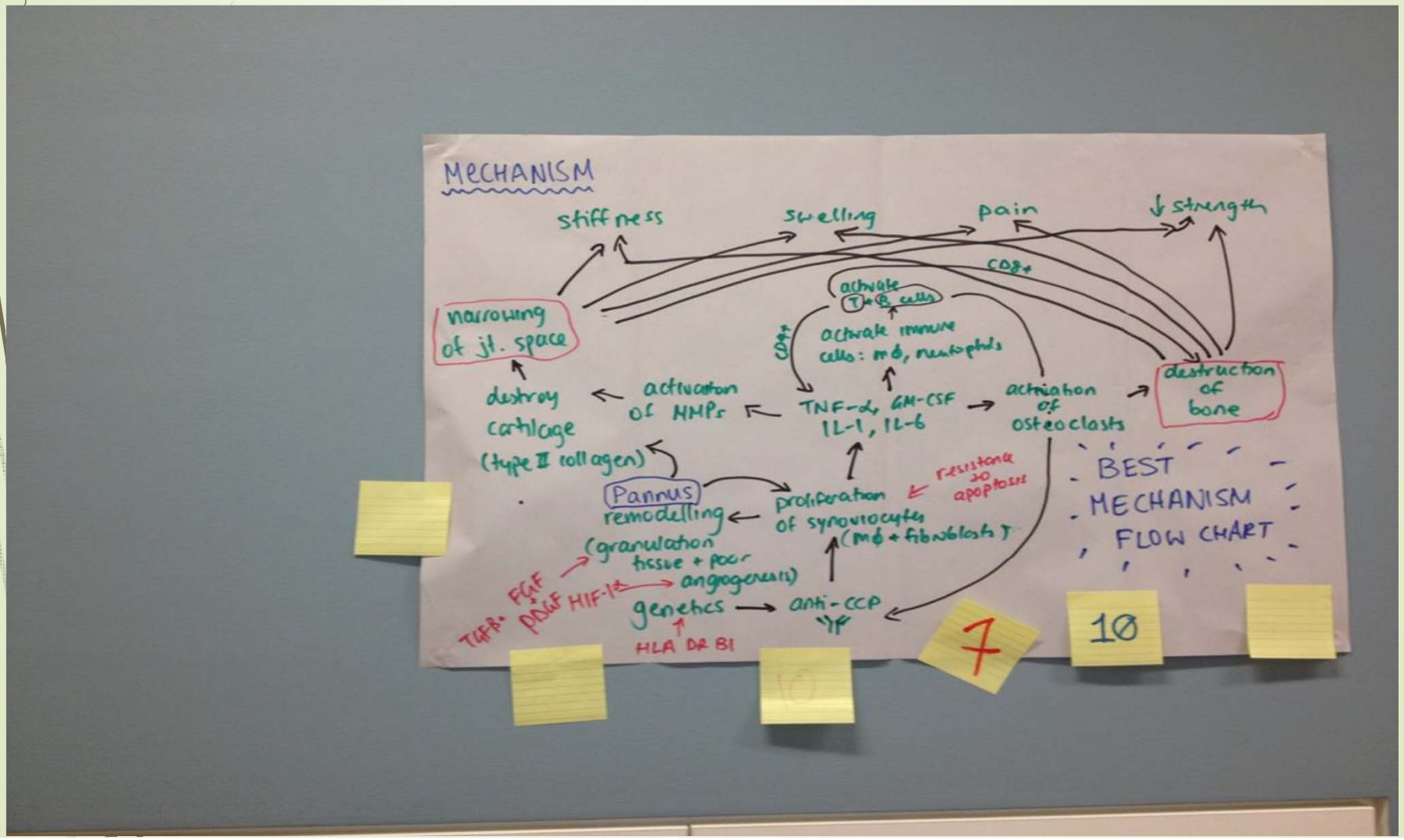
- Lose 1 point for each wrong attempt
- Team with highest score wins

Create Friendly Competition

4. Immediate Feedback 20mins
Clarification of Concepts

5. Problem Solving Activities 15mins

Pathophysiology flow chart



Readiness Assurance Process

"Tests cause better focus. Experts gave definitive answers rather than questions".

"Quizzes to test learning/encourage people to do pre-work. MCQ as guide to what in pre-work was really important. Intergroup competition brings motivation".

SAMPLE QUESTION 1

A 78 year old woman presents as she is concerned about osteoporosis. She has a history of early menopause, does little exercise and is a smoker. Investigations reveal a vitamin D level of 30 (N 40 –120) and a lateral X-ray of her spine shows a compression fracture of T10. Which of the following is the most important in regards to future fracture risk?

A. Age

B. Prevalent Fracture

C. Early Menopause

D. Low physical activity

E. Vitamin D deficiency

Small group size

*"The small groups aided in **encouraging participation**".*

*"Having **multiple groups** participate together also aided in learning".*

Structured learning environment

*"The session is **structured** in a way that is conducive for recapping and reinforcing our prior knowledge in certain topics".*

Improvement needed

Pathophysiology flow chart explanation

"Mechanism of the disease was challenging. More direction given with regards to the pathogenesis flowchart would help."

Student perception of PBL & TBL

Survey

Likertscale 1-5

1=strongly disagree

5 = strongly agree

Study Design & Results

Survey response rate

- PBL: Response rate: 144/169 (85%)

- TBL: Response rate: 152/169 (90%)

Student & Staff Interviews

- Students were **overwhelmingly more positive about their TBL experience compared to PBL**

- TBL structure, smaller groups, tests (individual & group), immediate feedback, expert clinicians

Sydney Medical School TBL website
http://sydney.edu.au/medicine/ome/shern/innovation/tbl.php

The purpose of Assessment

Assessment of/for/as Learning

Summative Assessment:

Assessment *OF* learning. Making decisions about certification, progression.

– High stakes, sufficient sampling for high precision.

– To make a decision.

Formative Assessment:

Assessment *FOR* learning. Providing feedback on progress, opportunities to practice.

- Lower stakes, sufficient sampling for moderate precision.
- Lots of opportunities for feedback, reflection.
- Sufficient time between formative and summative to address concerns in performance.

Performance assessment in Medical Education

- Variations in clinical practice and education
- Lack of clarity in defining competence and performance

- **Competence**
  - **what an individual is *able to do* in clinical practice**
- **Performance**
  - **what an individual *actually does* in clinical practice**

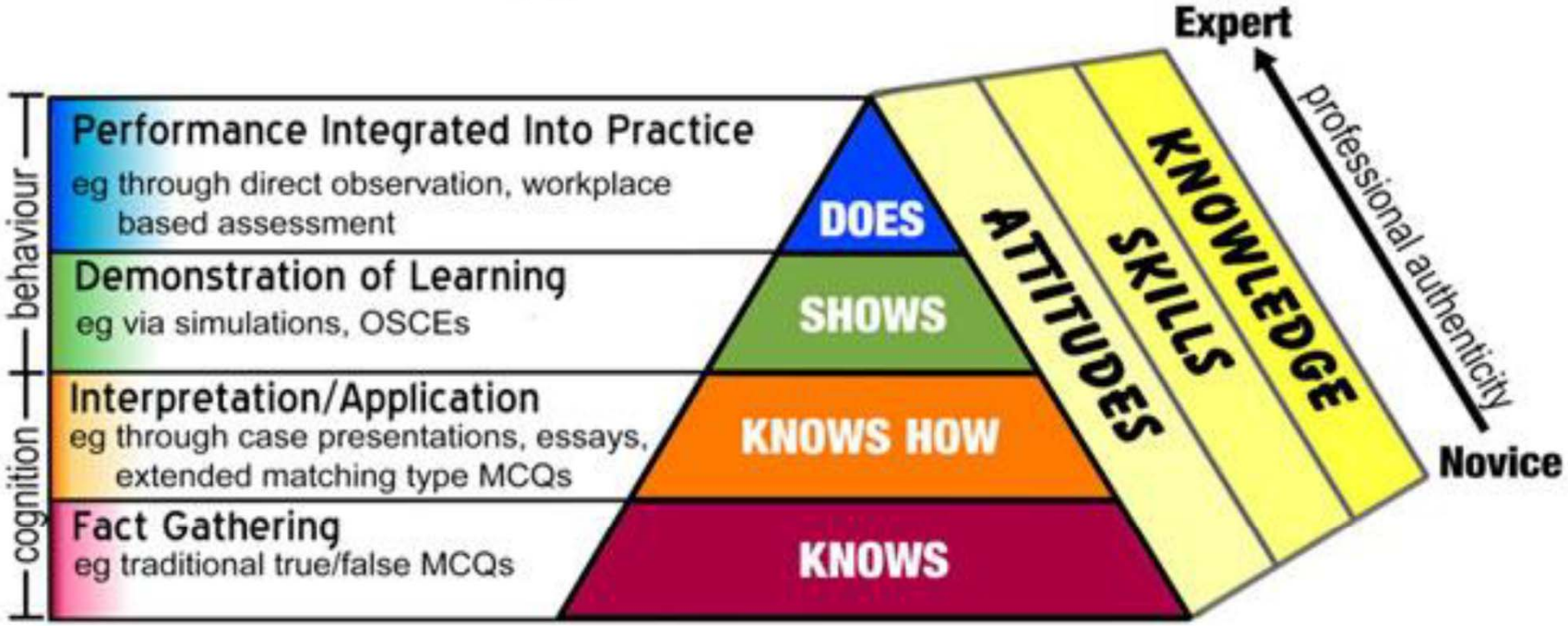
Competence

- Scientific knowledge base & other professional practice elements:
  - History taking
  - Clinical examination skills
  - Skills in practical procedures
  - Doctor patient communication
  - Problem solving ability
  - Management skills
- Relationships with colleagues and ethical behaviour

A model of Clinical Competence

MILLER'S PRISM OF CLINICAL COMPETENCE (aka Miller's Pyramid)

it is only in the "does" triangle that the doctor truly performs



Based on work by Miller GE, The Assessment of Clinical Skills/Competence/Performance; Acad. Med. 1990; 65(9); 63-67
Adapted by Drs. R. Mehay & R. Burns, UK (Jan 2009)

What will be assessed?

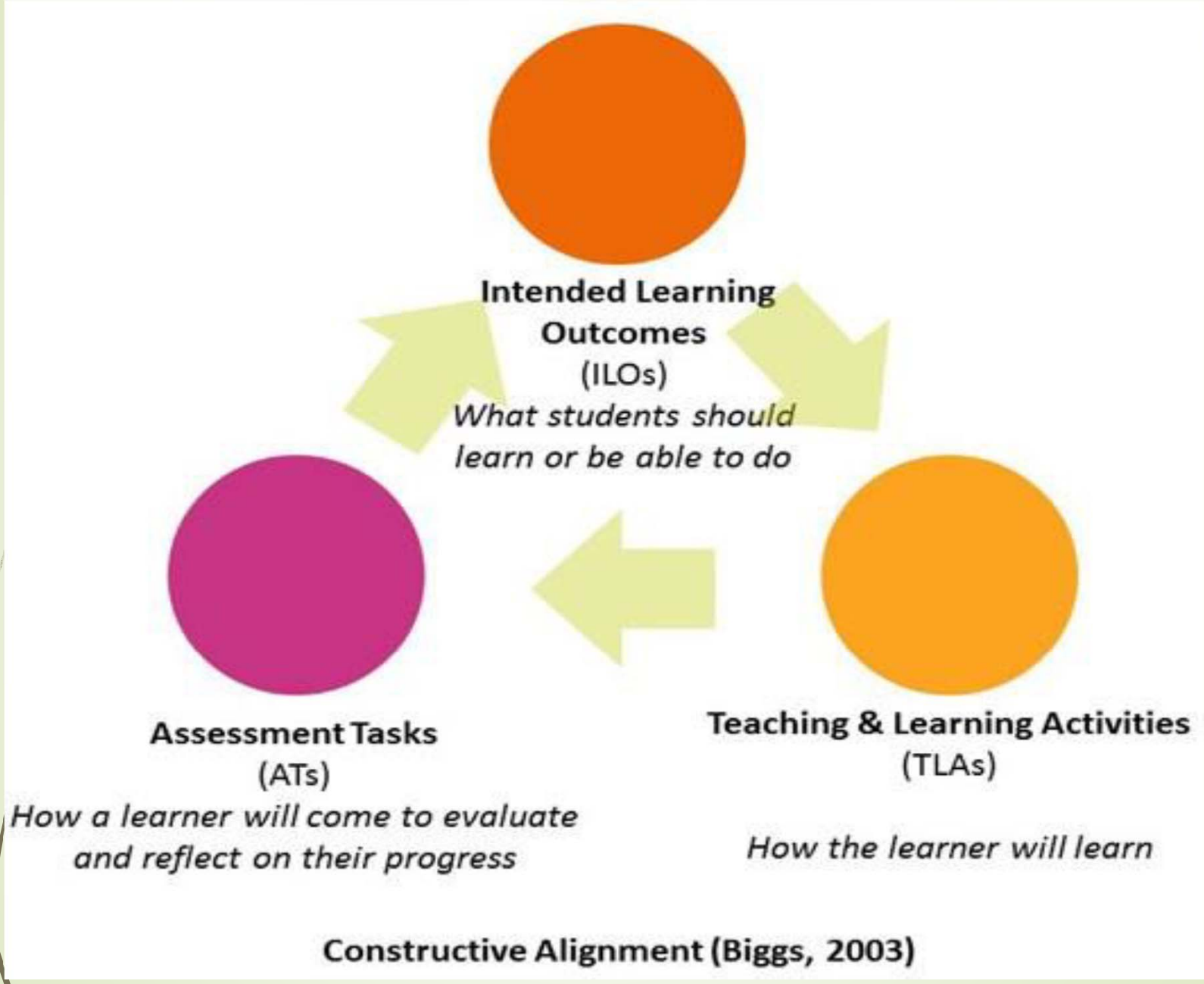
(Foundation Year)	Year 1	Year 2	Year 3	Year 4	Year 5
1. Biology & Science subjects related to Medicine 2.Foundation for medicine (Principle block)	Integrated Basic Medical Sciences with clinical relevance (Block A)	Integrated Basic Medical Sciences with clinical relevance (Block B)	Core Clinical Medicine in practice (Medicine, Surgery & related disciplines)	Specialities in All Ages of Medicine 2. Electives	Student internship program (Rotation in four main Clinical disciplines)

Clinical Management, Medical Ethics and Professionalism

Community and Family Health

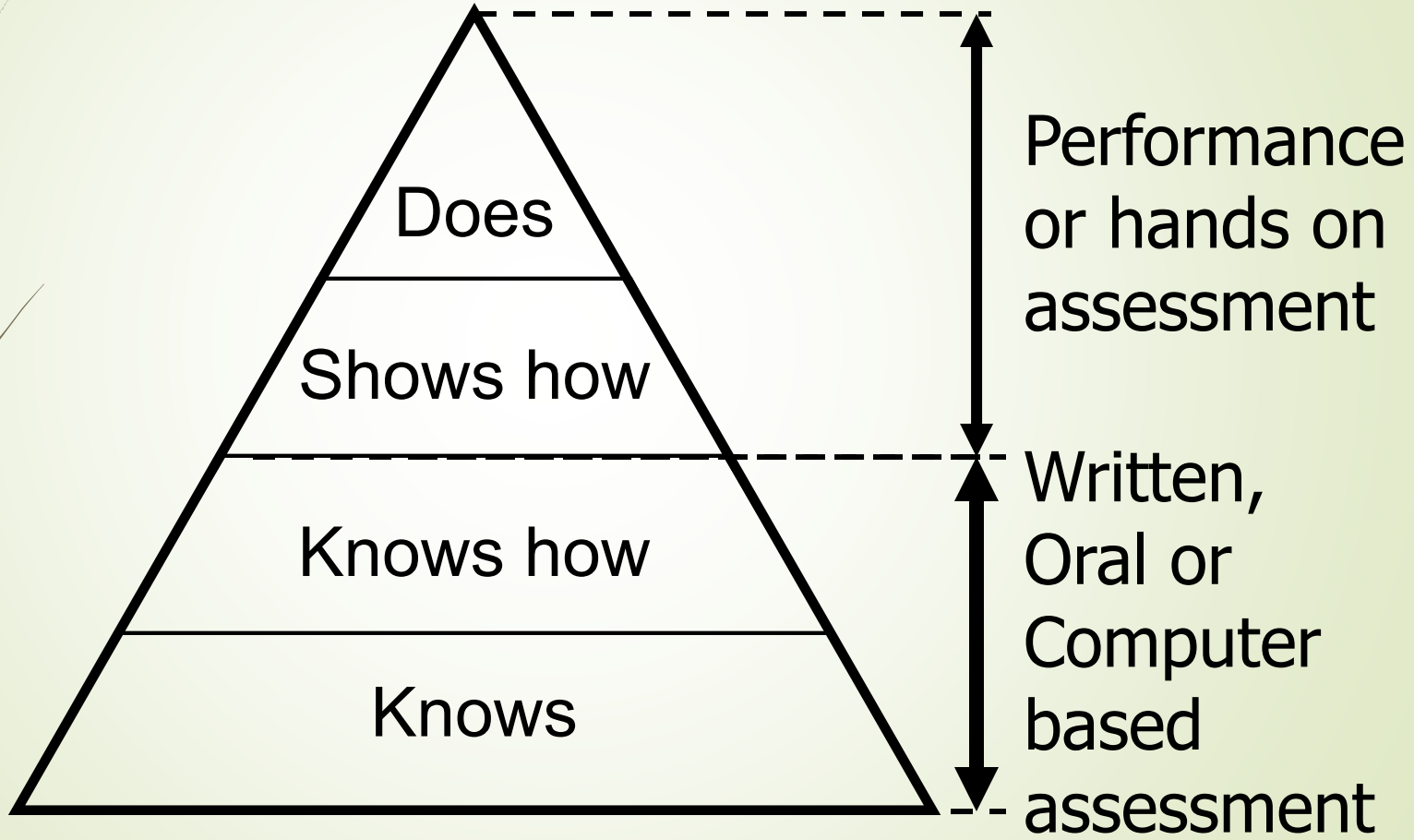
Research Culture and skill

Social and Behavior Science



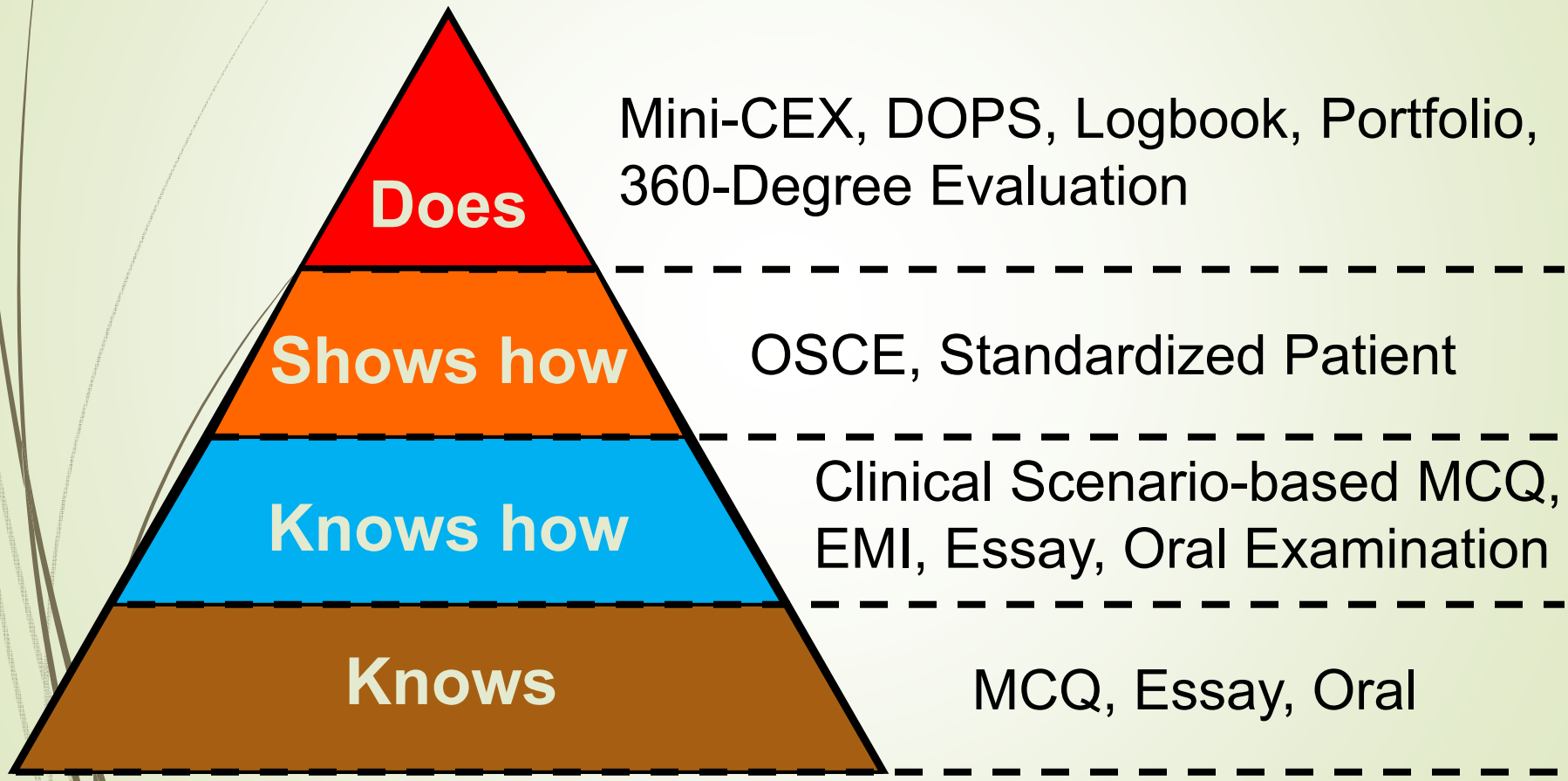
Make sure learning outcomes are assessable!

A simple model of competence



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

Climbing the pyramid.....



Knows and Knows How

- Oral Examination/ Viva
- Long Essay Question
- Short Answer Questions (SAQ)
- Multiple Choice Questions (MCQ)
- Extended Matching Items (EMI)
- Key Features Examination (KF)

Shows How

- Long Case
- Short Case
- Objective Structured Clinical Examination (OSCE)

Does

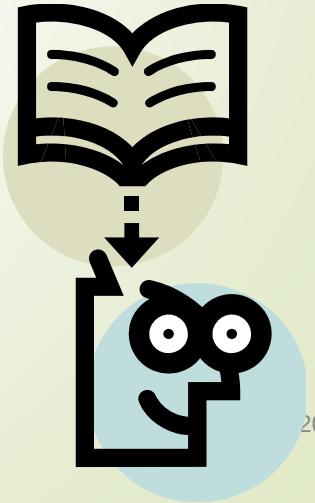
- Mini Clinical Evaluation Exercise (mini-CEX)
- Direct Observation of Procedural Skills (DOPS)
- Clinical Work Sampling (CWS)
- Checklist
- 360-Degree Evaluation
- Logbook
- Portfolio

Assessment methods

- Assessment of knowledge
- Assessment of skills
- Assessment of attitude

Assessment of knowledge

- essay questions
- modified essay question (MEQ)
- multiple short questions (MSQs)
- multiple choice questions (MCQs)
- oral test



Assessment of skills

- traditional clinical exam (long case, short case, viva)
- practical/ clinical examination (OSPE/ OSCE/ PACES)
- observational reports
- project assignments

check list / rating scales

Assessment of attitude

Rating scale and Questionnaires

- Likert-type scale
- observational scale
- questionnaires
  - open form
  - close form

Clinical Examination (OSCE)

The OSCE:

Objective: Multiple stations and examiners, same tasks for all candidates, clear criteria, specification of standards.

Structured: stations mapped to curriculum: 'blueprint', checklists and prompts.

Clinical : Candidates are observed performing a clinical task, on real or simulated patient.

Examination: Formal assessment , formative or summative.

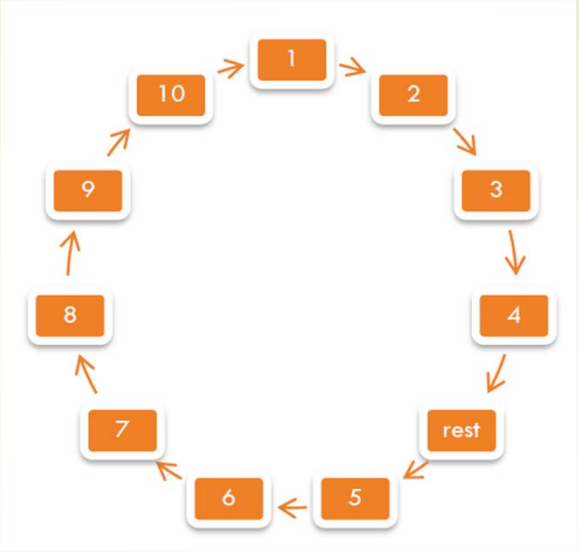
Brief Overview of the OSCE

Stations: up to 20 in a certification exam

Station length: typically between 5-15 minutes each.

Station: 1 Examiner + Patient (or other stimulus) +
1 Candidate per station.

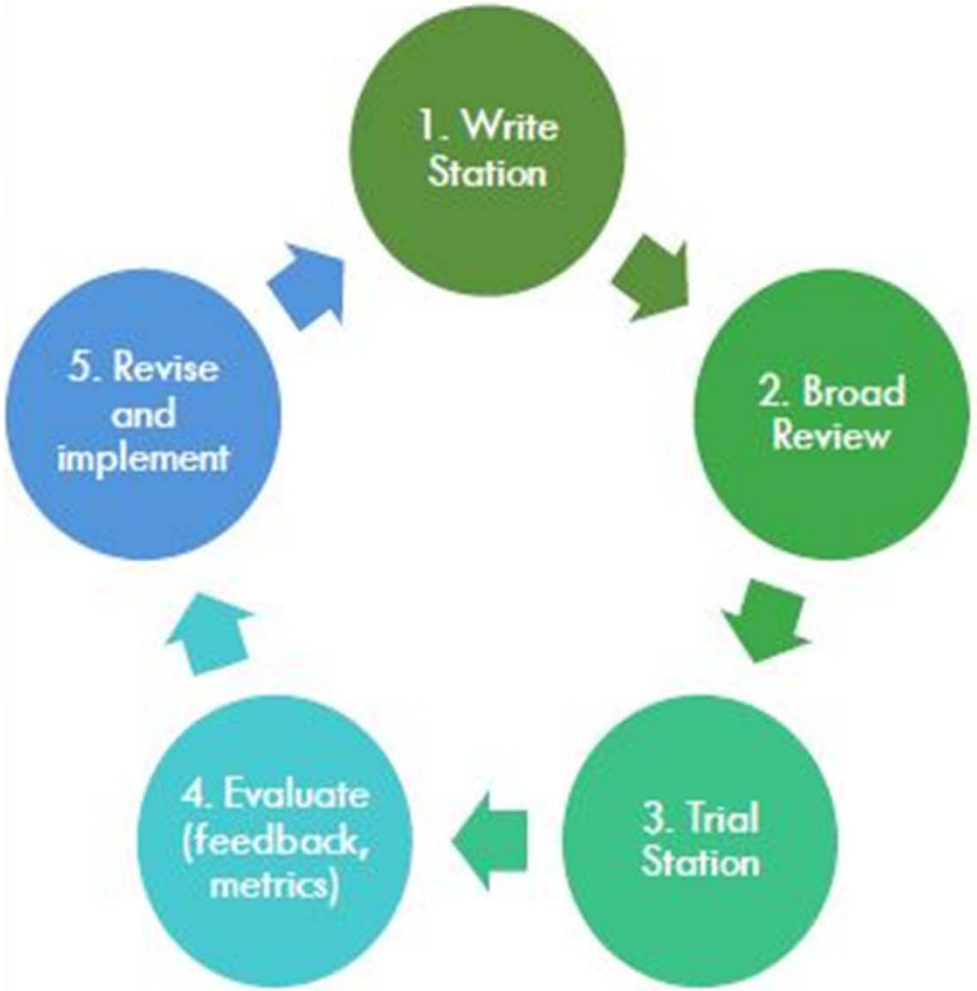
Organization: Circuits, Administrators, sequestration.3


1
2
3
4
rest
5
6
7
8
9
10

What tasks will you assess in your OSCE?

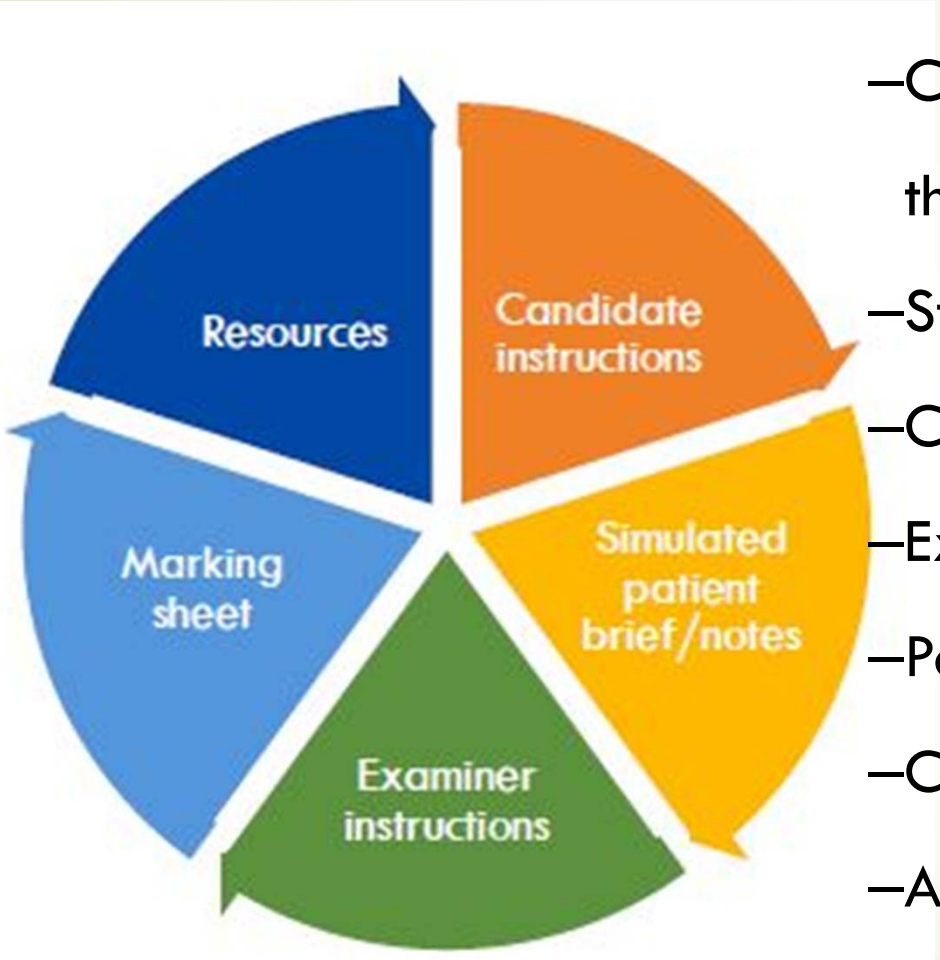
Typical OSCE Stations	
History Taking	Physical Examination
Explaining and Preparing for a Procedure	Procedural Skills
Data Interpretation	Prescribing Skills
Consulting with a Carer (in person, interpreter, telephone)	Ethical issues (gaining consent, maintaining patient confidentiality)
Dealing with Emotions (anxious patient, angry, distressed)	Clinical Decision Making
Delivering Bad News	Reporting Findings , Seeking Advice
Clinical decision making	…

Creating OSCE Stations



1. Write Station: Mark sheet first.
2. Review: not just discipline experts!
3. Trial: As formative or non-contributing station, with junior Drs.
4. Seek feedback from examiners, students, patients. Metrics.
5. Make changes, implement.

Parts of an OSCE station



–Consider the scope of the task and the length of the station.

–Start with the mark sheet.

–Checklists? Rating scales? Both?

–Examiner guides

–Patient guides (marking?)

–Candidate instructions

–Administrative guidelines (resources).

Preparing the OSCE station

- Examiner Guidelines
  - Aim of the station (learning outcomes)
  - What to look for
  - How to mark
  - Feedback guidelines (examiner comments)
- Patient/Actor Guidelines
  - Patient History
  - Specific answers to questions students will ask.
  - What to do with unexpected/off target questions.
  - What will be expected of them in terms of dress, physical activity/examination by student.
  - Try to keep simple!

Preparing the OSCE Station

- Candidate Instructions
- Allow enough time for reading. Candidates with special needs? Dyslexia?
- Be specific about scope of the task (eg what NOT to examine if necessary).
- Be specific about any reporting instructions to the Examiner.

- Resources
- Specific resources required for every station listed for organisers.
- Consider local hospital variations in tools used for teaching (Charts, BP – manual or electronic?)
- Consider room layout and patient positioning for comfort and examiner viewing potential.

Marking Sheets

- Checklists "Analytic"

  Advantages

  - Provides guidance and objectivity for examiners
  - Provides specific feedback to students (if released)
  - Appropriate for novice behaviour

  Disadvantages

  - May be reductionistic
  - Promote 'rote learning' behaviour
  - Can be difficult to agree on detail

- Rating scales "Holistic"

  Advantages

  - Cover generic areas of 'quality'.
  - Provides capacity for 'expert judgment' of examiner
  - Can be anchored with behavioural statements
  - No issue releasing to students
  - Encourages practice of authentic clinical skills behaviour (talk to patients!)

  Disadvantages

  - Less opportunities for specific feedback.
  - Can promote 'halo' effect in examiners
  - May be more appropriate to more senior levels of training.

Marking Sheets: Checklist Example

Station Title: Examination of the Hand			
Criteria	Not attempted	Attempted, incorrect	Attempted, correct
Introduces self and addresses patient by name (must do both for attempted and correct)	0	Score?	Score?
Explains the procedure			
Exposes the patient's hands, wrists and elbows			
…			
Total Score			/10

Marking Sheets Domain Based Example

Sydney Medical School, Years 1 & 2 OSCE

–Knowledge/Skill , Structure and Summary , Communication Skills

–Students graded 1-5 on:

–Grades derived from score on checklist unique to station (knowledge/skill)

–Rating scale for level of performance Structure and Summary

–Rating scale for level of performance Communication Skills

–Standard based on number of satisfactory ratings by domain, not number of stations passed.

Patient Perspective

–Simulated patient's can provide valuable feedback on student performance.

–May contribute to scoring or be provided as feedback only.

–Providing feedback must be included in the simulated patient training.

–Did the patient feel respected?

–Did the patient feel listened to?

–Did the patient have enough time for questions?

–Did the patient feel comfortable (particularly physical examination) ?

–Did the patient understand explanations?

Sydney Medical School Experience

–Sydney Medical School study looked at relationship between checklist and global scores, and analyzed examiner comments.

–Consultation and iterative review of domains and performance levels for rating scales.

3 DOMAINS FOR MARKING

–Knowledge

–Structure and Presentation (summary)

–Communication Skills

MATRIX OF DOMAINS AND PERFORMANCE LEVELS

–Pass/Fail is now *domain based* rather than *station based*

Sydney Medical School OSCE Rubric

2015 STAGE 1 and 2 OSCE: RATING SCALE DOMAINS AND CRITERIA

	Very Poor performance	Short of Standard	Expected Standard	Better than Expected Standard	Much Better than Expected Standard
Checklist Criteria Score (%)	<30	31/59	60-75	76-90	>90
Structure & Presentation	No structure apparent. Fails to summarise findings	Structure haphazard. Summary not concise. Lacks key points.	Structured approach to task and summary. Able to synthesise. Misses some points.	Approaches task with logical structure. No hesitation. Synthesis and summary concise and important points highlighted	Highly organized approach and presentation
Communication Skills • **Rapport with the patient**	Avoids eye contact Frequently crosses personal boundaries Cold demeanor No empathy	Minimal eye contact Occasionally crosses personal boundaries Forced demeanor Empathy uncertain	Appropriate eye contact Respects personal boundaries Pleasant demeanor Appears empathic	Good eye contact Respects personal boundaries Warm demeanor Patient appears relaxed	Good eye contact Utilises personal boundaries well Warm and engaging Patient appears confident with the student
• **Quality of verbal interaction**	Ignores all patient cues Non-interactive Questions are abrupt	Hesitant response to patient cues Interrupts inappropriately, poor conversational flow Questions are in the form of a checklist	Picks up most patient cues Mostly allows the conversation to flow Questions are structured and relevant	Picks up patient cues Allows the conversation to flow Questions are focused but flexible	Responds to all patient cues Allows the conversation to flow Questions are responsive and clarify detail well
• **Content of verbal interaction**	Frequent use of jargon Often unprofessional Confused	Occasional jargon Unprofessional at times Uncertainty in the interaction	Little jargon Professional Calm interaction	No jargon Professional and flexible Warm interaction	Language is appropriate and professional Smooth shift from lay to medical language Creates confidence in the patient

Sydney Medical School OSCE Decision Making and Feedback

12 Station OSCE

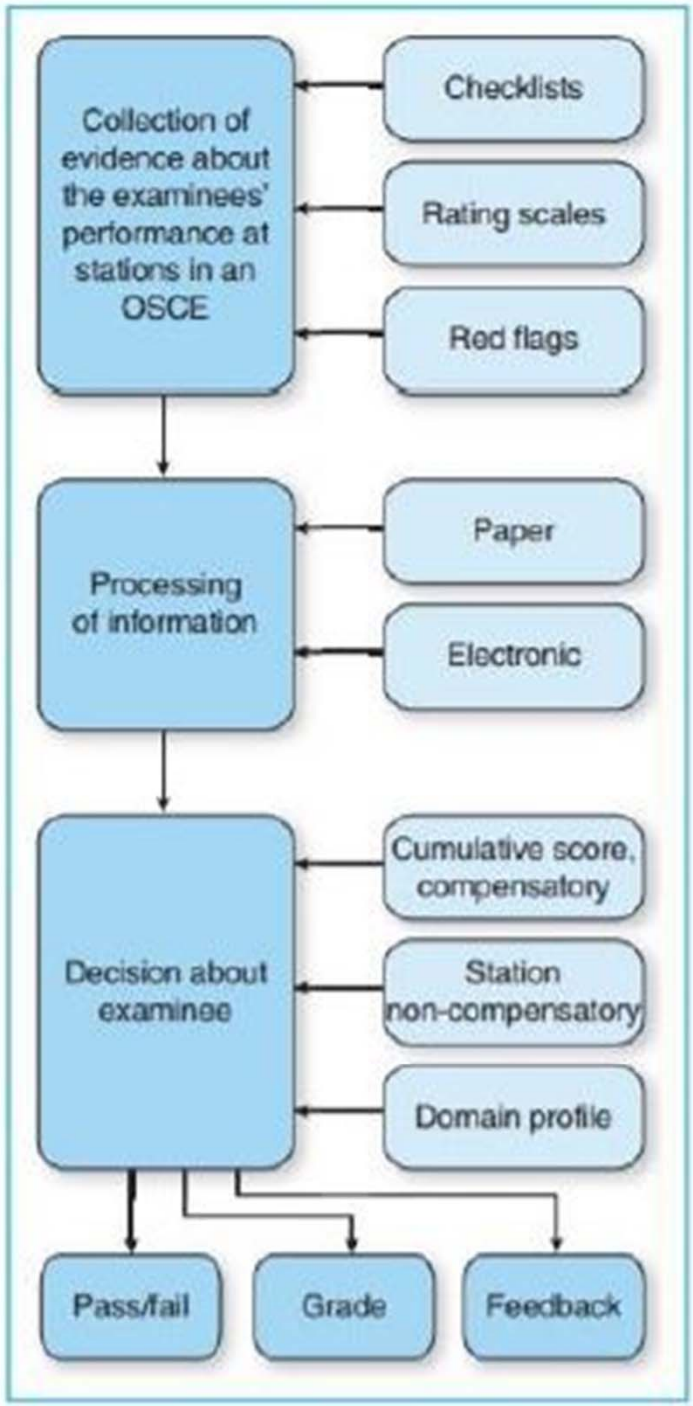
	Not yet competent for Stage level		Competent for Stage level			Check Score Totals	Result for Domain
Performance Level → Domains Assessed ↓	Very Poor performance	Short of Standard	Expected Standard	Better than Expected Standard	Much Better than Expected Standard		
Checklist Criteria Score		2	7	2	1	10/12	Competent
Structure and Presentation	2	6	4			4/12 NYC	Not yet Competent
Communication skills		2	8	2		10/12 C	Competent
Sum performance ratings	*2*	*10*	*19*	*4*	*1*		
						OVERALL RESULT	
Feedback :	Checklist items and communication skills satisfactory. Structure and presentation not at Stage level.					Not Yet Competent	

Comments from Examiners:

Process and Decision points in an OSCE

- Collecting the evidence
- Processing the information
- Making a decision (standards)
- Implications for decision

From : Harden, R.M., Lilley, P., Patricio, M. (2016). "The Definitive Guide to the OSCE : The Objective Structured Clinical Examination as a performance assessment." Page 128. Elsevier



How will you deliver your OSCE?

- Venues, resources, planning.
- Data collection
  - Paper based or Electronic?
  - Electronic far superior if feasible.
  - (Software, Hardware (iPADS) , Internet connectivity, training, Support)

  - www.e-osce.ch (total examination system, used by Sydney Medical School).
  - www.clinquest.com
  - www.moscee.com
  - www.osceonline.com
  - www.qpercom.com
  - www.oscemanager.com

Governance Structure for assessment

Decision Making for Allowing student to sit for Final Exam

Criteria

- **Attend 90 % of Required Activities i.e.**
  - **TBL**
  - **Seminar**
  - **Practical**
  - **Clinical**
- **Attend 50% of Lectures**

Assessment Unit :Responsibilities

(1) Meeting with committee of module: One month prior to Exam

(2) Ask for questions form different disciplines two weeks before assessment

(3) Meeting of assessment unit one week before summative assessment for question set-up

(4) Send selected questions to respective discipline for confirmation

(5) Compilation of confirmed questions for the exam.

(6) Distribute the question sets to exam centers

Creating a question bank

Cardiovascular Module					
Ana 1	Question				
			Author		
			received date		
			status	Not approved yet	
				Approved	Date
				Used	Date
					Exam
				Archived	Date

Assessments

Type of Assessment	Methods of assessment	% Weightage	Number	% Weightage
Continuous assessment	TBL 5 TBL sessions	5%	2	10%
	Semester end-test **Written Exam** MCQ (MTF/SBA) EMQ	20%	2	40%
Summative assessment	**Written Exam** MCQ (MTF/SBA) EMQ	5%	4	20%
	Multi-station Exam	6%	5	30%
Total				100%

2020

Weekly Plan

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	
9:00 AM	TBL followed by Problem based learning , group discussions (concept mapping)	Normal structure and functions of the Heart and vessels	Anatomy 3 sections rotating	Clinical Teaching: Aetiology, clinical signs and Symptoms of Hypertension	Hospital based bed-side teaching	9:00 AM
9:15 AM						9:15 AM
9:30 AM						9:30 AM
9:45 AM		Cardiac cycle, regulation of blood pressure	Anatomy 3 sections rotating			9:45 AM
10:00 AM						10:00 AM
10:15 AM						10:15 AM
10:30 AM				Pharmacology of antihypertensive drugs		10:30 AM
10:45 AM		pathophysiology and organ changes of essential hypertension	Anatomy 3 sections rotating			10:45 AM
11:00 AM						11:00 AM
11:15 AM						11:15 AM
11:30 AM						11:30 AM
11:45 AM						11:45 AM
12:00 PM	Lunch Break					12:00 PM
12:15 PM						12:15 PM
12:30 PM						12:30 PM
12:45 PM						12:45 PM
1:00 PM	Seminar / presentations (Global Health,/life style modifications/ NCD/ Metabolic Syndrome, PPD, etc)	briefing and discussions small groups	Histology, histopathology, pathology	Small group teachings sessions	Clinical Seminar	1:00 PM
1:15 PM						1:15 PM
1:30 PM						1:30 PM
1:45 PM						1:45 PM
2:00 PM		CXR (related to CVS diseases)	Histology, histopathology, pathology			2:00 PM
2:15 PM						2:15 PM
2:30 PM						2:30 PM
2:45 PM						2:45 PM
3:00 PM		Practical (Physical examination, pulse pressure, BP)	Histology, histopathology, pathology			3:00 PM
3:15 PM						3:15 PM
3:30 PM						3:30 PM
3:45 PM						3:45 PM
4:00 PM						4:00 PM

Learning/Teaching methods for Foundation Year

- Lecturer (25%)
- Practical (25%)
- Small Gp discussion
- SDL individual and group Assignment

50%

Learning Teaching Methods

- Lecturer

(In class or providing ppt slides or video of lecturer, online resource)

- Team based learning around core clinical problems
- Seminars
- Discussion
- Practical/ discussion
- Bedside teaching for history taking and clinical skills

For year 3 and 4

- Case based learning
- Bedside teaching
- Students lead seminars
- Role modeling
- Reflection practices
- Lecture/ video/ simulations

Practical

Hands on training

Watch practical video first

Eg. Anatomy 20 min video – what should be found in dissection

Practical notes are provided

Self learning – student have to bring enough resources that they can try to identify the structure

Facilitators including – anatomist, radiologist, clinician

Can check with tutors

Discuss, get feedback


Anatomy practical
section

Self learning – student have to bring enough resources that they can try to identify the structure

Flipped class room

Idea

- Instead come to room --- go themselves and learn the contents before class room and
- In the classroom – interactive, hands on training, problem solving exercise, concept mapping, discussion and get feedback with experts
- Student will do better

Game based learning

Quiz games

10 min contents- then play games – eg drag and drop games

Student engagement – quite engage and attendance very good.

Consider which content in Lecture and which in game

Simulation

Use of low fidelity simulators

Use of high fidelity simulators

Standardized patient

Computer assisted simulations

Portfolio assessment

- collection of one's professional and personal goals, achievements, and methods of achieving these goals
- contain items such as one's best essays, written or research projects, log books, letter of reflection and evidence of professional growth, to support individual accomplishment and progression

SMP student portfolio aims to

- **Develop and foster critical thinking**
- **Develop the ability, and instil a personal desire to promote and participate in reflective practice**
- **Develop professionalism as a recognized part of being a member of the medical profession**

Work-Based Assessment

OVERVIEW

- Work-based assessments use actual job activities as the grounds for assessment
- The basis for judgements includes patient outcomes, the process of care or the volume of care rendered
- Data can be collected from clinical practice records, administrative databases, diaries and observation
- Portfolios are an aggregation of data from a variety of sources and they require active and ongoing reflection on the part of the doctor

Direct Observation Tools for Workplace-Based Assessment

- **Single encounter tools**
  - **Mini-CEX** (Mini Clinical Evaluation Exercise)
  - **DOPS** (Direct Observation of Procedural Skills)
  - **CSR/CBD** (Chart Stimulated Recall/ Case-based Discussion)
- **Multiple source feedback (MSF)**
  - **Mini-PAT** (mini- Peer Assessment Technique)

360-Degree Evaluation

- consists of measurement tools completed by multiple individuals in a person's sphere of influence
- assesses how frequently a behavior or an action is performed by a candidate using a rating scale
- observation is done by many different individuals, and generally includes the supervising physicians, peers and nurses

Reflective practice

Reflective practice is the ability to reflect on an action so as to engage in a process of continuous learning

Schon, 1983 (the reflective practioner)

Why?

- Increasing self-awareness
- Increasing EI ? EQ
- Develop creative thinking skills
- Encourages active work engagement
- Takes time to adopt
- Ultimately saves time and energy

Developing reflective practice

Read – around the topics you are learning about or want to learn about and develop

Ask – others about the way they do things and why

Watch – what is going on around you

Feel – pay attention to your emotions, what prompts them, and How your deal with negative ones

Talk – Share your views and experiences with others

Think – learn to value time spent thinking about your work

Neil Thompson (1996)

THANK YOU

Good assessment for good outcome