2.2.4 (3c)

Module – 5

SKILLS TRAINING

Skills Training Module

1. Objective of the Document

The objective of the document is to facilitate institutions and faculty to develop and implement skills training as part of implementation of new Undergraduate Curriculum.

2. Glossary of Terms Used in the Document

Skill: Skill is the ability to perform a task leading to a specific predefined outcome.

Skill may be:

a) Intellectual or cognitive which includes clinical reasoning and decision making skills,

b) Procedural or psychomotor skills that require manual dexterity and include laboratory and clinical skills,

c) Communication skills,

d) Team skills including leadership skills.

Competency: The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, attitude, values, and reflection in daily practice for the benefit of the individual and the community being served.

Skill Assessment: A session that assesses the skill of the student including those in the laboratory, bed-side, skills lab, skills station that uses mannequins/ paper cases/simulated patients/real patients as the context demands.

DOAP (Demonstration -Observation - Assistance - Performance): A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently.

3. Introduction

The current undergraduate medical education curriculum focuses on competencies and outcomes and gives emphasis to skill development in all phases. The competencies 'Shows How' (SH) or 'Perform' (P) are listed in relation to the skills to be acquired by the learner. The Graduate Medical Education Regulations Part II, 2019 envisages that certain skills are prerequisites for graduation. Therefore, it is necessary for institutions to create skill sessions in which essential/ desirable and certifiable skills are acquired. These skill sessions should be planned during their respective phase in a laboratory/during clinical posting. There should be proper documentation of the process of acquisition of skills. When required, a skills lab may be used to impart training. Skills lab provides a safe training environment in which a learner can be observed and be provided with the feedback necessary to improve. It also allows the learner to do tasks repetitively under supervision till the desired level of competency is achieved.

4. Salient Principles

The undergraduate medical education program is designed with a goal to create an "Indian Medical Graduate" (IMG) possessing the requisite knowledge, skills, attitudes, values and responsiveness, so that he or she may function appropriately and effectively as a physician of first contact of the community while being globally relevant.

The principles governing skill acquisition have been presented in this module which also facilitate the utilization of 'Skills lab' during the undergraduate training and assessment.

This module helps to:

a) understand the link between competency and skill,

b) enumerate the general principles of skill acquisition,

c) explain how to apply these principles,

d) understand the different methods and steps of skills teaching and acquisition (skill cycle),

e) develop skill sessions from a given competency, and

f) impart, assess and document the acquisition of these skills.

The module also elaborates the concepts, processes, resources and organizational set up for a basic skills lab in a college setting.

Context from GMER 2019

2.2.2 All efforts must be made to equip the medical graduate to acquire the skills as detailed in Table 11 Certifiable procedural skills – A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate.

4.1.4. Clinical training shall emphasize early clinical exposure, skill acquisition, certification in essential skills; community/primary/secondary care-based learning experiences and emergencies.

4.1.6. Acquisition and certification of skills shall be through experiences in patient care, diagnostic and skill laboratories.

4.1.8. Progress of the medical learner shall be documented through structured periodic assessment that includes formative and summative assessments. Logs of skill-based training shall be also maintained.

4.2. Appropriate Faculty Development Programmes shall be conducted regularly by institutions to facilitate medical teachers at all levels to continuously update their professional and teaching skills, and align their teaching skills to curricular objectives.

10.5.1. Initiate appropriate cost-effective treatment based on an understanding of the rational drug prescriptions, medical interventions required and preventive measures.

Certifiable Procedural Skills, as given in GMER 2019 are given below:

Table 11 (GMER 2019): Certifiable Procedural Skills:

A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate

Specialty	Procedure
General Medicine	• Venipuncture (I) • Intramuscular injection (I) • Intradermal injection (D) • Subcutaneous injection (I) • Intra Venous (IV) injection (I) • Setting up IV infusion and calculating drip rate (I) • Blood transfusion (O) • Urinary catheterization (D) • Basic life support (D) • Oxygen therapy (I) • Aerosol therapy / nebulization (I) • Ryle's tube insertion (D) • Lumbar puncture (O) • Pleural and ascitic aspiration (O) • Cardiac resuscitation (D) • Peripheral blood smear interpretation (I) • Bedside urine analysis (D)
General Surgery	• Basic suturing (I) • Basic wound care (I) • Basic bandaging (I) • Incision and drainage of superficial abscess (I) • Early management of trauma (I) and trauma life support (D)
Orthopedics	• Application of basic splints and slings (I) • Basic fracture and dislocation management (O) • Compression bandage (I)

Gynecology	• Per Speculum (PS) and Per Vaginal (PV) examination (I) • Visual Inspection of Cervix with Acetic Acid (VIA) (O) • Pap Smear sample collection & interpretation (I) • Intra- Uterine Contraceptive Device (IUCD) insertion & removal (I)
Obstetrics	• Obstetric examination (I) • Episiotomy (I) • Normal labor and delivery (including partogram) (I)
Pediatrics	• Neonatal resuscitation (D) • Setting up Pediatric IV infusion and calculating drip rate (I) • Setting up Pediatric Intraosseous line (O)
Forensic Medicine	• Documentation and certification of trauma (I) • Diagnosis and certification of death (D) • Legal documentation related to emergency cases (D) • Certification of medical-legal cases e.g. Age estimation, sexual assault etc. (D) • Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc. (D)
Otorhinolaryngology	• Anterior nasal packing (D) • Otoscopy (I)
Ophthalmology	• Visual acuity testing (I) • Digital tonometry (D) • Indirect ophthalmoscopy (O) • Epilation (O) • Eye irrigation (I) • Instillation of eye medication (I) • Ocular bandaging (I)

Dermatology	• Slit skin smear for leprosy (O) • Skin biopsy (O) • Gram's stained smear interpretation (I) • KOH examination of scrapings for fungus (D) • Dark ground illumination (O) • Tissue smear (O) • Cautery - Chemical and electrical (O)

I- Independently performed on patients,
O- Observed in patients or on simulations,
D- Demonstration on patients or simulations and performance under supervision in patients

Certification of Skills: Any faculty member of concerned department can certify skills. For common procedures, the certifying faculty may be decided locally.

5. Major Components and Structure of the Skill Development program

Skill was the term used traditionally to denote procedural skill. However, there has been a paradigm shift and in the present context, it is the ability to perform a task leading to a specific predefined outcome in several domains.

Classification of Skills-

Skills are classified as:

a) **Intellectual or cognitive skills** are defined as abilities such as application, analysis and synthesis as building on basic knowledge and are related to underlying component of knowledge.

e.g. ability to interpret haematological tests of a patient with anemia

b) **Psychomotor or procedural skills** (require manual dexterity and include laboratory and clinical skills

e.g. ability to obtain a blood sample by venepuncture

c) **Communication skills** is defined as the ability to communicate with others in a given situation.

e.g. ability to motivate volunteers for blood donation

d) **Team Skill** is defined as the ability to work together in a team.

e.g. Ability to work towards implementing a project/operating on a patient with the team.

Link between competency and skills

Competency based medical education is outcome oriented. The learner is expected to be able to demonstrate achievement of predefined outcomes including skills. The competency based curriculum document on skills defines levels of competence for different skills from mere awareness to successful performance (K/KH/SH/P). It is necessary therefore to create learning experiences that will allow the learner to attain the predefined level of outcome. For competencies that require an 'SH', or 'P' level of competence, provision of a learning experience that will allow performance of the skill repeatedly under supervision is critical. It should be also noted that the acquisition of the skill and its correct performance must be documented and assessed.

The general principles of skill acquisition and its application are:

a) Outcome is predefined for the phase and level of training,

b) Standard approved process of acquisition including required steps are clearly outlined,

c) Learners are provided opportunity to progressively acquire and practice repeatedly under supervision, in a structured format and in a safe, non-threatening environment, and

d) Opportunities are made available for self-assessment and improvement, feedback and assessment of performance.

Developing a skill session from a competency, methods of skill teaching and steps of skill acquisition

It is important to determine the criticality and feasibility of the skill being taught, as given in Figure 1.

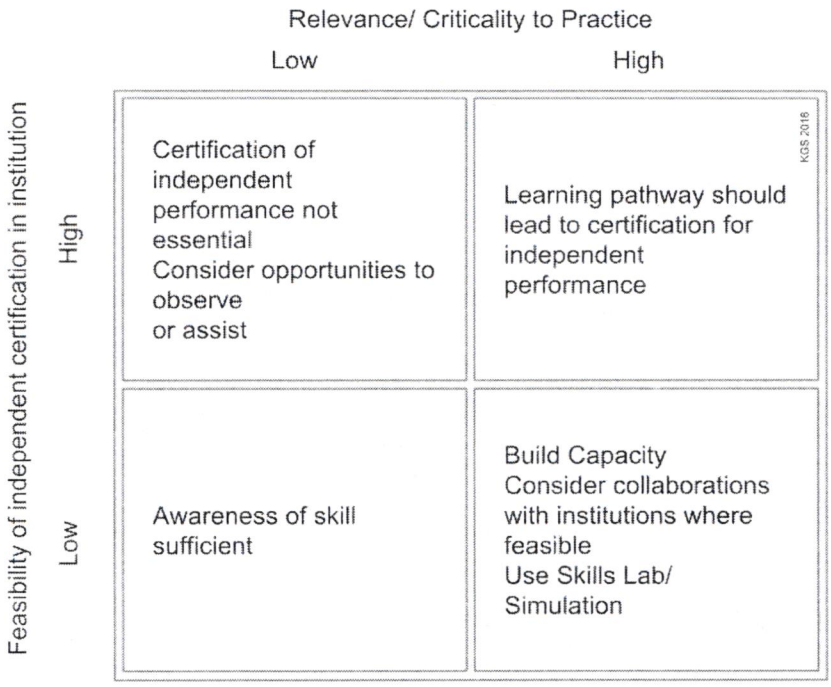

Figure I: Criticality vs feasibility matrix in context to Skills training

Explanation of the criticality vs feasibility matrix with examples from the new undergraduate curriculum:

Example1: Competency of Phase I - PY11.14 -Demonstrate Basic Life Support in a simulated environment.

Domain of 'Skill' at the level of Shows How (SH). Suggested method is DOAP sessions and assessment using OSCE. Now in a real situation, the feasibility of independent performance by a learner may be low, but since the criticality is high, it is a must, to use a Skills lab for training using simulation.

Example 2: Competency of Phase III- EN3.2 - Observe and describe the indications for and steps involved in the performance of diagnostic nasal endoscopy.

Domain of 'Skill' is at the level of Knows How (KH). Suggested method being Lecture, Small group discussion, demonstration and assessment using Written/ Viva voce. Both the feasibility and criticality are low and hence awareness of this skill is sufficient and there is no need for skills training in this competency.

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SL.NO	NAME OF THE ITEMS	PRESENT STOCK	REMARKS
	1.ULTRASOUND EPIDURAL & LUMBAR PUNCUTRE MODEL		
1	Epidural & lumbar puncuture stand	1	
2	Epidural & lumbar puncuture water container with lid	1	
3	Epidural & lumbar puncuture torso with torso skin	1	
4	Epidural & lumbar puncuture ultra sound insert	2	
5	Epidural & lumbar puncuture standard dura	2	
6	Epidural & lumbar puncuture advanced dura	4	
7	Epidural & lumbar puncuture insert cartridge	1	
8	marker pen	2	
	2.CRICOID STICK TRAINER		
1	Rigid trachea	1	
2	soft trachea	1	
3	neck skin	1	
4	base	1	
	3. NG TUBE AND TRACH CARE TRANINER		
1	tank top	1	
2	esophagus reservoir	1	
3	stomach reservoir	1	
4	removable trach plug	1	
5	neck skin with velcro tape	1	
6	carotid pulse bulb	1	
7	removable face skin	1	
	4.CHEST DRAIN & NEEDLE DECOMPRESSION		
1	torso with removable skin	1	
2	needle deconpression pads	2	
3	advanced chest drain pads	2	
4	standard chest drain pads	2	
5	chest drain rib frame (left)	1	
6	chest drain rib frame (right)	1	
7	chest drain lungs	2	
8	chest drain diapharams	2	
9	chest drain ribs	12	
10	chest drain pump respiratory swing	1	
11	chest drain pump needle decompression	1	
12	chest drain slotted retaining knobs	12	
13	key with key ring	missing	
	5.AIR WAY MANAGEMENT TRAINER		
1	air way demonstration Model	1	
2	Simulated Stomach Contents 75(g)	1	
3	Syringe(50ml)	1	

4	Compress	10
5	Cleaning Pump And Tube	1
6	Practice Board with Lock	1
7	Stomach Connector	1
8	Lung Connector	2
9	Lung	2
10	Stomach Retention Valve	1
11	Stomach	1
	6. KNOT TYING TRAINER	
1	Knot Tying Trainer	2
	7.LAERDAL IV TORSO	
1	Internal Shell IV Torso	1
2	External Shell IV Torso	1
3	Pulse Tube Set IV Torso	1
4	Neck Replacement Pad	1
5	Femoral Replacement Pad	1
	8.ADVANCED BREAST EXAMINATION TRAINER	
1	Wearable Breast	1
2	Breast Examination Inserts	2
3	Pathologies Supports	2
4	Back Plates	2
5	Torso	1
6	Breast Examination Pathologies(Different Size)	6
7	Lymph Node Pads	3
	9.BUTTOCK INJECTION TRAINER	
1	Buttock Injection Model	1
2	Buttock components	3
3	Thighs components	3
	10.INJECTION TRAINER	
1	Epidermis For Injection Trainer	2
2	Skin Pad	1
3	musule block incliuding sponge	1
4	soft tissue aseembley	1
5	soft tissue aseembley stap on base plate	1

1. Basic Life Support(Adult &Pediatric)

2. Interchangeable Urinary Cathetarization

3. Cholking Charlie

4. Neonatal Intubation Trainer

5. Utreus Collection

6. Advanced Resucci Anne Trainer

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SKILL LAB LOG BOOK

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