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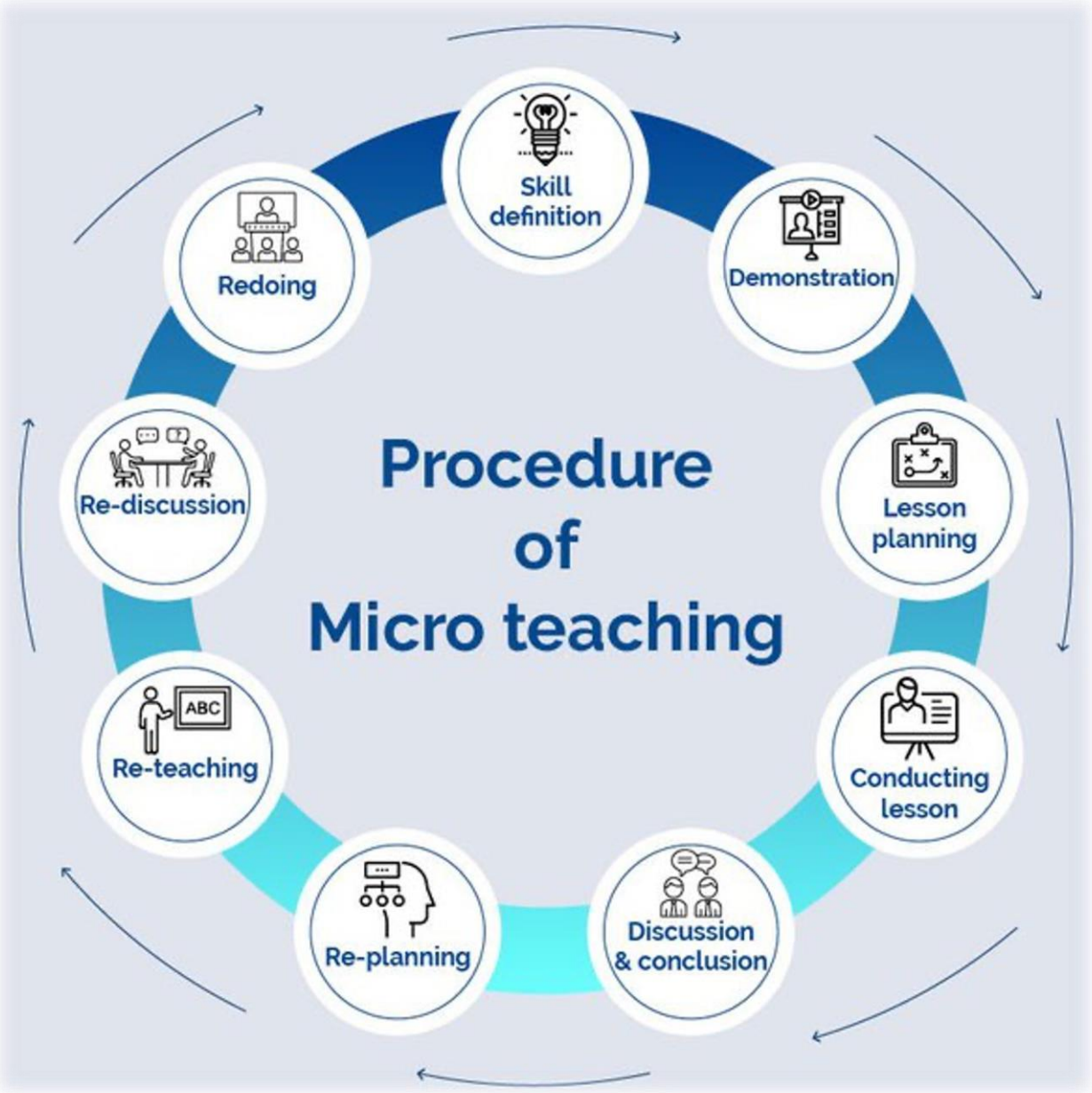


MICROTEACHING, SMALL GROUP TEACHING & EDUCATIONAL OBJECTIVES

Introduction :

There are famous saying about education & learning process**.**

"Education is the passport to the future, for tomorrow belongs to those who prepare for it today."— Malcolm X .

"If the child is not learning the way you are teaching, then you must teach in the way the child learns." – Rita Dunn.

So, we have to teach our students according to their acceptable way in a standardized structured fashion. For this purpose, we have to undergo faculty development programme to develop various teaching skills & self-confidence in beginner teachers.

In continuation to the topic of post graduate syllabus "Basics of medical education in teaching and assessment of Biochemistry" in previous chronicle, here we want to explain one of the most important modes of teaching ie Small Group Teaching or SGT. Moreover, we shall discuss in brief about Microteaching as well as Educational Objectives.

MICROTEACHING:

Microteaching is a **teacher's** training technique for learning teaching skills. It employs real teaching situation for developing skills and helps to get deeper knowledge regarding the art of teaching. This Stanford technique involved the steps of "plan, teach, observe, re-plan, re- teach and re-observe". Microteaching can be practiced with a single concept and a small number of students. It scales down the complexities of real teaching, as immediate feedback can be sought after each practice session. Microteaching helps in eliminating errors and builds stronger teaching skills for the beginners and senior residents. **Therefore,** microteaching helps to increase the self-confidence, improves the in-class teaching performances, and develops the classroom management skills of the **teacher.**

Phases of microteaching:

- **Knowledge acquisition:** It is the preparatory, pre-active phase, in which the teacher gets trained on the skills and components of teaching through lectures, discussion and demonstration of the skill by the experts.
- **Skill acquisition:** In this phase the teacher plans a micro-lesson for practicing the demonstrated skills. The colleagues and peers can act as constructive evaluators which also enable them to modify their own teaching-learning practices.
- **Transfer:** The teacher can integrate and transfer this learned skills from simulated teaching situation to real class room teaching.

Core teaching skills in microteaching :

- Lesson planning
- Presentation & explanation
- Illustration with examples
- Reinforcement
- Stimulus variations
- Probing questions
- Classroom management
- Using A-V aids

Microteaching can enhance the skills of problem solving, critical thinking, questioning, and reflective thinking. It helps in transformation of difficult topics into learnable units. Microteaching has proven to be effective in the retention of the learned behaviors.

SMALL GROUP TEACHING (SGT):

A small group teaching session that is well planned provides a systematic approach for both teachers and learners. Effective small group teaching and learning strategies increase student

engagement, retention of knowledge, self-directed learning, communication skills, teamwork ability, and peer discussion.

The term small groups coined to 3-12 member of undergraduate students of same semester though the ideal small learning group is comprised of 7 to 8 members.

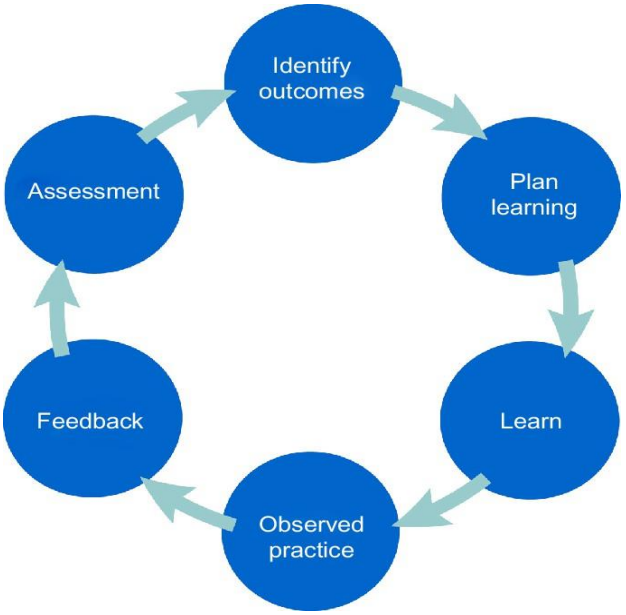
Planning of SGT:

Learning activities should encourage student participation, guide and engage students towards the achievement of set, agreed learning outcomes. Bloom's taxonomy is a useful structure for lesson design. It is used as a tool for classifying lesson objectives and contains six categories that are structured in hierarchical order with progressing in complexity.

Bloom's taxonomy

The key characteristics of small group teaching are the active involvement of students in the entire learning process without direct intervention by the teacher, at least for a brief period.

Students are encouraged to apply and transfer new ideas through discussion, collaboration and reflection. This is referred to as **"collaborative learning"**, since it is centered around interactions between students, their peers and facilitators, rather than an one-way interaction. We must consider the **five key steps** when preparing a lesson plan which are as follows:



The Learning Cycle

So, during preparation of lesson plan we have
(i) To judge the profile of target audience.
(ii) To write our student's learning outcome
(iii) Content & activities to involve students
(iv) To design Formative assessment task
(v) Summary to get take home message.

Teaching session can be structured based on Outcome-Activity-Summary method.

OAS Method

OUTCOMES

- Consider the background knowledge of students
- Consider what we want the students to learn, understand, and be able to do by the end of the session
- Establish our lesson goals and outcomes prior

to the session

- Share the learning outcomes with students at the start of the session
- Allow the students input towards the learning outcomes

ACTIVITY

- Design appropriate learning activities aligned with the outcomes
- Plan the activities and how you will engage the learners
- Plan the classroom environment and seating arrangements
- Ensure students are active participants in the lesson
- Ensure your lesson delivery is stimulating and you have the students' attention
- Address students by their name, ask questions and get everyone involved to check their understanding
- If clients/patients are involved, gain consent before participation

SUMMARY

- Ask students to identify one new point/knowledge/skill learnt
- Summarize the content or skills covered
- Complete the lesson with a take-home message and a self-directed learning task
- Ensure the lesson finishes on time
- Evaluate your own teaching and take on board feedback from students

Methods of SGT:

Popular methods for small group teaching in the classroom setting are problem-based learning (PBL), case-based learning (CBL) and team-based learning (TBL), all providing learner-centered instructional approaches. Beside these, there are OMP (One minute Preceptor), group discussions, seminars, field visit, demonstrations, Concept Maps etc.

Problem-based learning (PBL) PBL is characterized by small group learning (6 to 10 students per group), using a guided learning format, with facilitation by one teacher. Learning takes place through problem-solving and self-study. Students initially meet to discuss the issues requiring further self-study, and then the group reconvenes to discuss and synthesize their learning.

Team-based learning (TBL) TBL is characterized by a format that permits one content expert to effectively facilitate many small groups (for example, 12 groups of 6.

students in one classroom), it uses a 'flipped classroom' technique, and a structured in-class learning format. TBL follows a sequence of steps, including pre-class preparation, in-class individual test and team-test, immediate feedback, and problem-solving activities.

Case-based learning (CBL) CBL is characterized by small group learning (6–10 students per group), using an inquiry-based learning format, with facilitation by one teacher.

Compared to PBL, CBL is less time consuming, and draws the focus of the students to key points of the clinical case. A structured and critical approach to clinical problem-solving is encouraged in CBL, where the facilitator is a content expert who directs and redirects the students. Eg students will be provided with pre-reading (eg. a journal article) , a clinical case may be used, providing history, physical and investigations. Students will be required to work in their group to: − make a diagnostic decision based on the history, physical and investigations. − create a flow chart linking the presentation (signs and symptoms) to laboratory investigations in order to explain the diagnosis.

OMP (One minute preceptor): In 1992, Neher et al used a number of micro skills to create the

five steps "Micro skills" model of clinical teaching now referred to as OMP. The steps of OMP technique are performed in the following sequence: (i) Get a commitment, (ii) Probe for supporting evidence, (iii)Teach general rules, (iv) Reinforce what was done right, (v) Correct Mistakes. OMP is a teaching tool that fosters assessment of student knowledge as well as provision of timely feedback. It helps in improving the teaching skill or faculty development.

Concept Maps: It is the addition of cross-links which are relational links between concepts at different levels. The founder of concept mapping is Joseph Novak. The concept map can be viewed as a picture of cognitive analysis of the problem by displaying the concepts and links between them.

Small group structures:

There are various small group structures which are as follows:

Group round: In this every participant must speak for a small time eg 20 seconds to 1 minute. For example, asking for a 'brief verbal synopses' of a clinical trial at a journal club, where each attempt will get progressively more succinct, clearer, and more accurate.

Paired discussion: One-to-one discussion on an assigned topic for 3–5 min. The teacher is able to join in the discussion.

Break out groups: The teacher poses a question and learners (in groups of 2–4) discuss responses before sharing with the whole group.

Creation of posters/drawings: Eg a mechanistic flow chart to describe the pathophysiology of the disease process.

Buzz groups: Based on principle of **"Think – Pair- Share"** . It is a cooperative learning process & it enables the students to express difficulties they would have unwilled to reveal in whole class, they can discuss the topic in a small group & can come out with ideas. So the process will create a buzzing sound.

Snowball groups: It is the extension of Buzz group, eg pairs join to make four, four joins to make eight etc. It is good idea to discuss more complicated tasks as the group gets larger.

Brainstorming: It can produce many creative solutions in a short period of time. This method encourages learner recall of knowledge and promotes interaction. The teacher may initiate brainstorming session by posing a question, problem etc.

Role play and simulation: Simulation & role play allows student to try out real life situation in a safe settings & to receive feedback. "Harvey" mannequin was developed at Miami& is able to recreate many of physical findings of the cardiology examinations, CPR etc. Role play can be useful for developing communication skills e.g. interviewing.
Sometimes actor patients/clients may be recruited for advanced role plays.

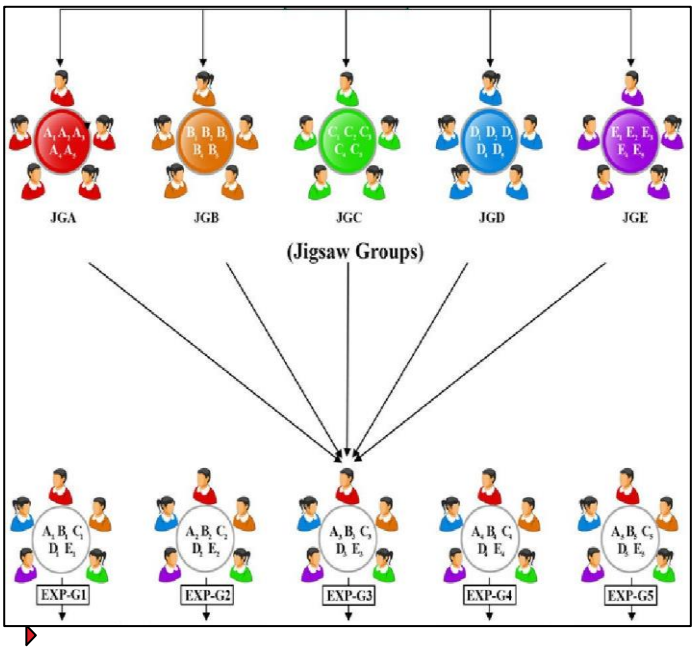
Interactive Models & Virtual patients: These are developed that respond to actions taken by students or facilitator. The process of interactive learning through assessment ,evaluation ,error correction creates interesting learning environment.

Workshops: a mixture of individual and group activities, with brief lectures.

Seminars: a report by students or a group of students, or discussion of a paper.

Fishbowls: The fishbowl configuration has an inner group discussing an issue while outer group listens, looking for themes, patterns, uses a group activities checklist to give feedback to the group on its functioning and the roles may then be reversed.

Jigsaw Technique- In this technique**,** class is divided into heterogeneous 'home' groups of 3-7 students. Teacher allots the subtopic to each student. Students from 'home' group that have been given same subtopic form a 'jigsaw' group. Example- 25 students divided in five equal groups: A B C D E (each numbered $A_1 – A_5$,$B_1 – B_5$ …). One topic is divided into five components e.g. aetiology, clinical features, diagnosis, treatment, complications/prognosis of anaemia /jaundice. Jigsaw/Expert groups constituted as (A1,B1,C1,D1, E1), (A2,B2,C2,D2, E2). One component allotted to each group and allowed discussion for 20 minutes. Original groups are reconstituted as (A1,A2,A3,A4, A5), (B1,B2,B3,B4, B5). Each group discusses complete topic within group so that all can understand the topic fully.



Circular questioning: Here each member of the group asks a question pertinent to the problem and puts it to the person opposite who has a specific time to answer it. The questioning and answering continues clockwise round the group until every member have contributed.

Crossover groups: Students are divided into subgroups that are subsequently split up to form new groups. This helps to make the most of the crossing over of information. It will be easier if colour codes are used.

Horseshoe groups: It allows alternating between lecture and discussion formats like workshop. Groups are arranged around table, with each group in a horseshoe formation with open end facing the front. It encourages discussion between students and instructor.

Teleconferencing: It connects resource person at one end and learners gathered at different centers and to assign them in discussions, doing activities with effective learning outcome.

Advantages of SGT:

- Self-directing and active learning
- Self-motivating
- Exploration of issues
- Deep learning
- Increases higher order, critical thinking skills.
- An adult style of learning
- Transferable skills
- Increase students' acceptance and interest.
- Utilises students' knowledge.
- Helps in integration of knowledge and skills

Results more permanent learning because high degree of students' participation.

Though there are many advantages, few disadvantages are also present:

- Requires highly skilled instructor
- Restricts size of groups
- Consume times

EDUCATIONAL OBJECTIVES:

Educational objectives are learner-centered, short & precise descriptions of what learners are expected to achieve at the end of the learning session.

A specific learning objective (SLO) is a statement of what students will be able to do when they have completed the instructions. It has three components: i) A description of what student will be able to do ii) The conditions under which the student will perform the task & iii) The criteria for evaluating student performance.

So, SLO has four elements:

- Activity: Describes what learner is expected to do.
- Content: Describes the subject, object in relation to which activity is performed.
- Criteria: Describes how well a task can be done by learner at least to the desirable level.
- Condition: Describes the important conditions when learner exhibits mastery of the objectives.

Learning Objective should be "**SMART** " ie **Specific , Measurable , Achievable, Relevant, Time-bound.**

SLO is written in a structured way. Four essential components of this structure are: **ABCD**

- **Audience:** Target audience
- **Behavior:** Desired measurable behavior
- **Condition:** Prerequisites
- **Degree:** Extent of achievement

Example- At the end of the session **students** will be able to **palpate the liver** of a **child** to the **accuracy of +/- 0.5 cm**

Conclusion: Microteaching is an efficient learning technique for effective teaching where it helps in required change in behavior. It increases self-confidence of teachers. Practicing the economical, simpler methods of microteaching would help to develop better teachers in our country.

One of the most important modes of teaching is small group teaching. The **forming– storming–norming–performing–adjourning** model of group development proposed by Bruce Tuckman in 1965, who said that these phases are all necessary in order for a team to grow, face up to challenges, tackle problems, find solutions, plan work, and deliver results. SGT is self-motivating, helping to increase higher order skills as well as results more permanent learning because high degree of students' participation.

Educational objectives are important for both the learners as well as facilitators. SLOs are keys to effective instructions. Good learning objectives include specifications about audience, observable behavior, condition & degree. Educational objectives are directly linked to instructional methods, assessment & evaluation & it should be "SMART".

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