



# Teaching & Learning Strategies in KAU

Guidelines and Tips for Faculty Members

Vice Presidency for Educational Affairs

1443/2021



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# Welcome and Introduction

The current document can help you to acquire a comprehensive knowledge and skills about teaching and learning in higher education. Moreover, this toolkit can help you to recognize the principles of adult learning.

This toolkit contains three sections:

## **Chapter I: Effective Learning strategies.**

- What is teaching?
- What is learning?
- Adults Learners Need.
- Effective teachers.
- Effective Teaching.
- Effective Learning Strategies

## **Chapter II: Strategy of Large group Teaching.**

- Advantages and disadvantages of lectures.
- Active Learning in Large Groups.
- Plan for large group session
- Visual Resources and Handouts
- Lecture Evaluation.

## **Chapter III: Strategy of Small group Learning.**

- What is small group learning (SGL)?
- What are the benefits of SGL?
- What are the perceived problems of SGL?
- What are the methodologies for conducting SGL?
- How to evaluate a SGL session?

## **Chapter IV: Flipped Classroom and Team Based Learning (TBL)**

## **Chapter V: Strategies for eLearning**

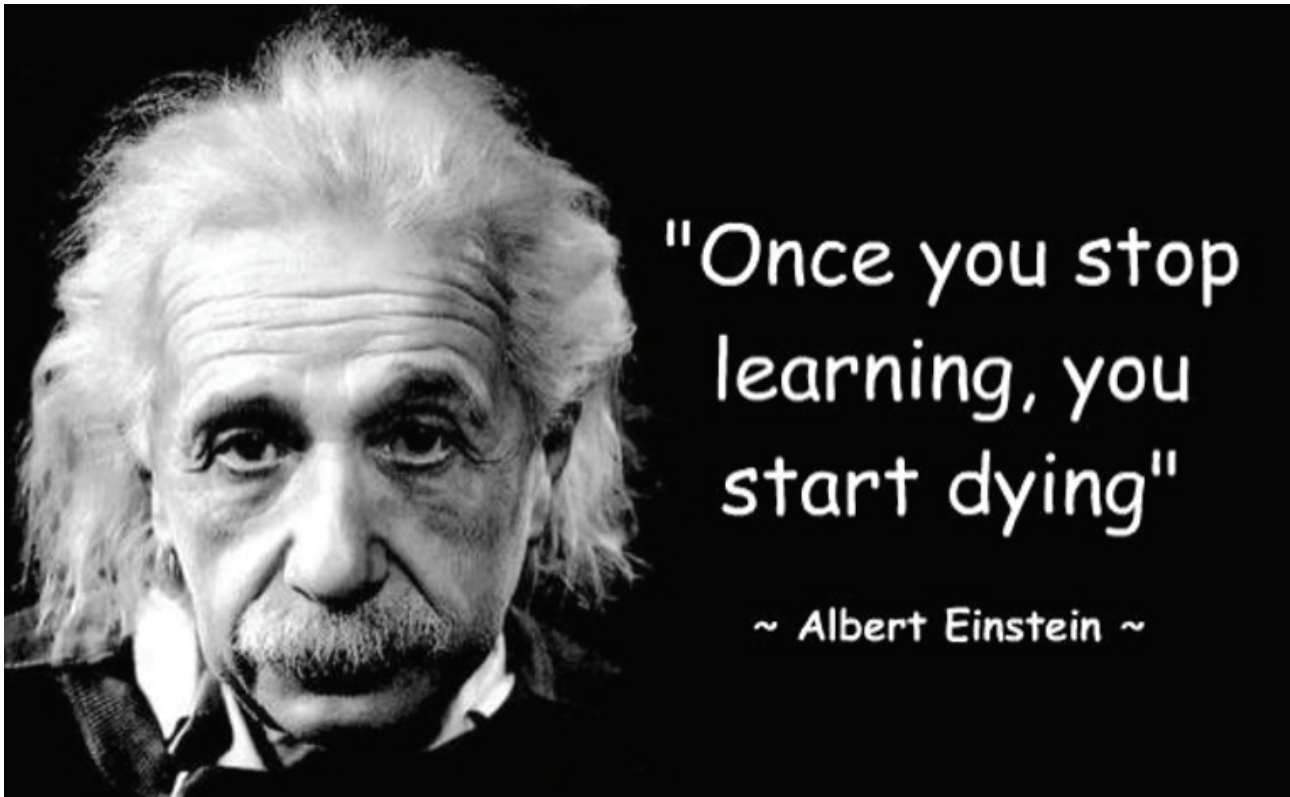
## What You Should Already Know?

- The meaning of teaching.
- Different methods of teaching.
- How to put the objective learning outcomes.
- Course specification template of NCAAA. **What You Will Learn?**
  - Explain the difference between learning and teaching.
  - Define different effective learning strategies.
  - Demonstrate learners needs.
  - Apply different methods of teaching on different learning domains.
  - Adopt effective learning strategies.
  - Prepare an interactive large group teaching session.
  - Effectively deliver lecture for large group of students.
  - Motivate students to actively participate in lectures.
  - Use different interactive techniques in lecture for achieving Intended Learning outcomes.
  - Evaluate lectures in terms of design and delivery.
  - Get Feedback on large group teaching session.
  - Explain the concepts of small group learning (SGL).
  - Identify the pros and cons of SGL.
  - Choose the suitable methods of SGL according to the learning outcome.
  - Identify obstacles during implementation of SGL.
  - Evaluate the process of SGL.



# Chapter 1. Effective Learning Strategies

In this chapter, you will learn:



## **The main goal of this Chapter:**

The training of the target group on the selection and use of effective learning strategies according to scientific bases and the rules and requirements of NCAAA.

## **Learning Outcomes :**

- Explain the difference between learning and teaching.
- Define different effective learning strategies.
- Demonstrate learners needs.
- Apply different methods of teaching on different learning domains.
- Adopt effective learning strategies.

## Introduction:

### ASK YOURSELF

#### What is the difference between teaching & learning?

The purpose of teaching is to facilitate learning and encourage the learners to learn more effectively. The purpose of teaching is not mere dispensing of information, but to develop lifelong learning habits. While, learning is a process resulting in some change or modification in the learners' way of thinking, feeling and doing. The change may be temporary or permanent. We all learn different things at different rates and hypothetically anybody can learn anything given sufficient time and resources. However, at a practical, hard ground level, our learning is limited. We all learn different matters attaining different levels of achievement.

#### What's Different about Teaching Adults?

To be effective in teaching adults, it's important to know your audience and have a general understanding of how adults learn. Much has been written about the topic. To best reach adults, there are five key factors you should focus on in the development of your training:

1. The material presented should have immediate usefulness to the learners.
2. The material presented should be relevant to adult learners' lives.
3. The training environment should be welcoming so that all learners feel safe to participate.
4. The training presentation should be engaging.
5. The training should be presented in a respectful manner, where learners have an opportunity to share their experiences.

Following these key principles will help you determine what to include in your training and how to present it. Make your training relevant to the learner by recognizing the unique background and experience of people working in public health. To engage your audience, use examples or anecdotes showing how the material is relevant.

## Effective Learning strategies Overview:

Minds are not mechanisms; they are organisms. And organisms are not assembled; they grow.

**Guy Claxton**

### Getting Started:

There are many ways to develop instruction, and educators have frequently debated which ways are the most effective. One practical approach that works well with adult learners shifts the thinking about developing instruction from “what will you teach,” to “what do the students need to learn?” This change of perspective will help the development process immensely.

To get started, you first need to be able to answer several key questions addressed in this section.

### Who is my target audience, and what are their learning needs?

It is your responsibility as an instructor to find out who will be in the audience and what kind of training they have already received. It is also helpful to write a short description of your target audience. You can use this when disseminating information about your course. Try to at least to learn the answers to these three questions:

- Who are you going to teach?
- What is their background?
- Will some people need more training than others?
- What are the learning objectives for this training?

### What are the learning objectives for this training?

Your purpose should meld the key components of your audience, its training needs, its skill and knowledge deficits, and what you want to accomplish in your course. Think through what you want participants to learn as a result of your training. They should leave the training with new information and/or skills that they didn't possess prior to taking it.

Before you start developing your learning objectives, it's important to determine the kind of learning your students will be gaining. Identifying the type of learning—Knowledge, Skills or Attitudes (KSAs)—will help you develop more specific learning objectives.

## What kind of learning strategies should I use?



The most important single factor influencing learning is what the learner already knows. Ascertain this and teach him accordingly.

— *David Ausubel* —

AZ QUOTES

## Role of Faculty

OLD	NEW
Faculty as disciplinary experts who impart knowledge through lecture	Faculty as Designers of learning environments applying best teaching methods
Actor on stage	Coach interacting with a team
Delivering a lecture	Designing and playing a team game

## Benefits of Student-Centered Learning:

1. Permits opportunities to connect the content to real life.
2. Provides opportunities for higher order thinking as opposed to passive listening.
3. Promotes greater student-faculty and student-student interaction.
4. Increases student retention.
5. Provides for improvement of social interaction skills, greater acceptance of others, and a greater sense of “community” in the class.
6. Encourages alternative forms of assessment.
7. Encourages innovation in both teaching and student involvement.

## Modalities of Learning:

Learning modalities are the sensory channels or pathways through which individuals give, receive, and store information. Perception, memory, and sensation comprise the concept of modality. The modalities or senses include visual, auditory, tactile/kinesthetic, smell, and taste. Many researchers have concluded that in a classroom, the students would be approximately:

- 25-30% visual.
- 25-30% auditory.
- 15% tactile/kinesthetic.
- 25-30% mixed modalities.

Therefore, only 30% of the students will remember most of what is said in a classroom lecture and another 30% will remember primarily what is seen.

**Visual learners** are those who learn by seeing. They need to see overheads, diagrams, and read text books, etc. to understand a concept.

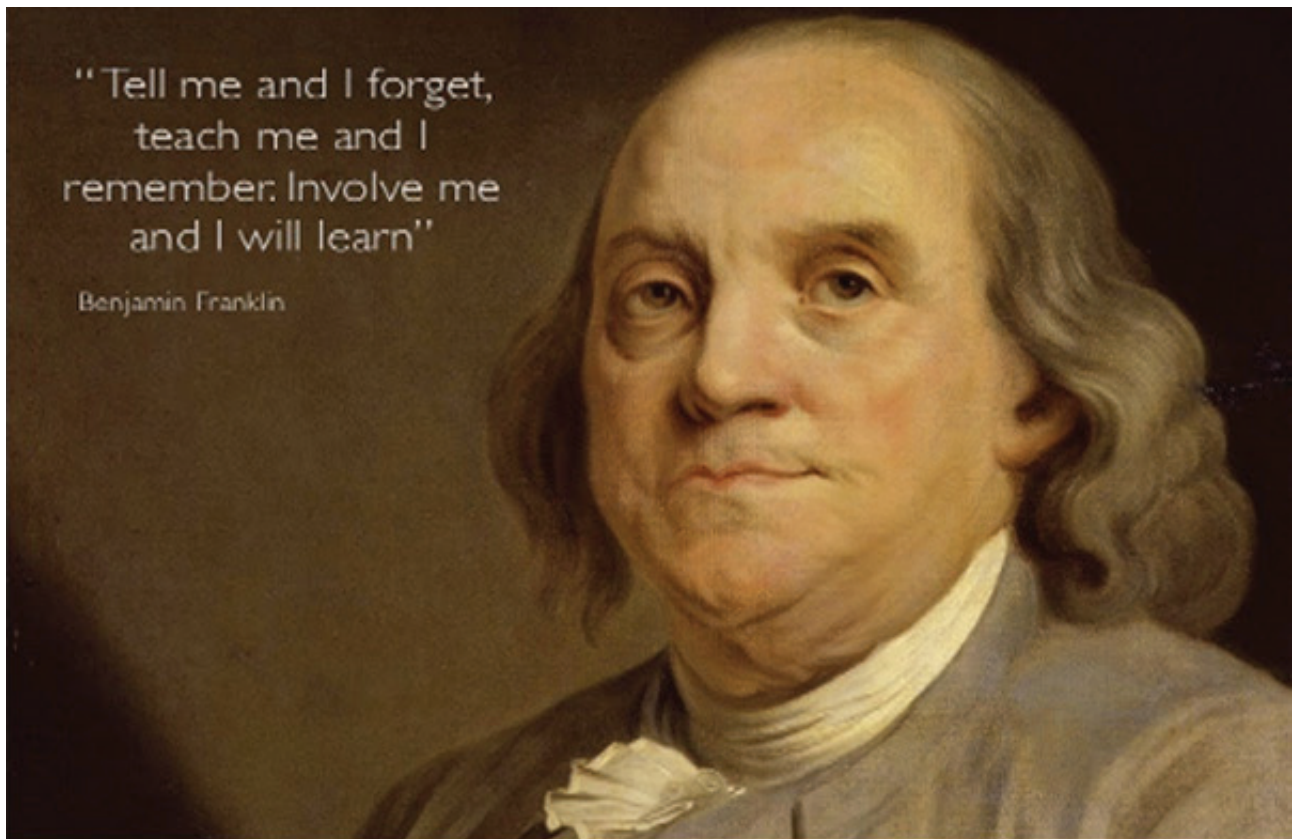
**Auditory learners** must hear what they are learning to really understand it. They enjoy listening, but cannot wait to have a chance to talk themselves. These students respond well to lecture and discussion.

**Tactile/kinesthetic learners** need to feel and touch to learn...these learners also learn better if movement is involved. They may be those students who are not doing well in school. Instruction geared to the auditory learner can be a hindrance to these learners, causing them to fall behind. One key reason at-risk children have trouble with school is that they tend to be these types of learners. About one-third of students do not process auditorially and are educationally deaf. Students with a tactile strength learn with manipulatives such as games, the internet, and labs.

An effective means to reach all learners is modality-based instruction; this consists of organizing around the different modalities to accommodate the needs of all learners. Most students learn with all their modalities, but some students may have unusual strengths and weaknesses in particular modalities. For example, students strong in the visual modality will be frustrated or confused with just verbal explanations.

The golden rule in learning is to engage at least two modalities of learning OR Engage one of these modalities coupled with an emotional experience. Active emotional engagement appears to be the KEY to learning.

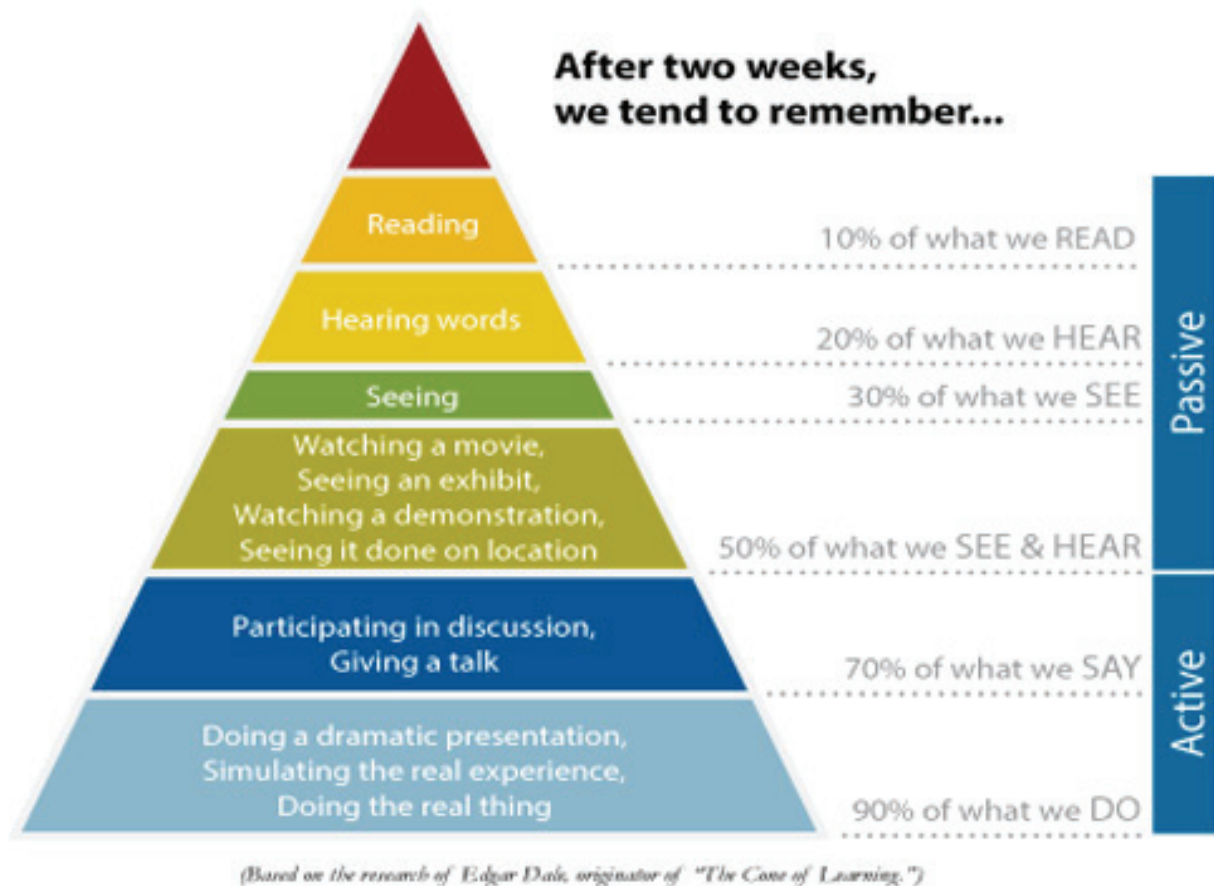
## How do I increase retention?



People often remember more when they practice or use their learning compared to when they just read or hear information. The amount of information we remember is in direct proportion to the amount of involvement we had in the learning.

The **Cone of learning** (Learning Pyramid) shows that we tend to remember only about 10 percent of what we read. Our memory increases when we hear and see something together—like watching a movie or going to an exhibit. We remember about 90 percent of what we say and do, like practicing what we learned. This is important for you to recognize as you deliver training to your adult learners. Choosing the appropriate methods for delivery is critical in increasing retention.





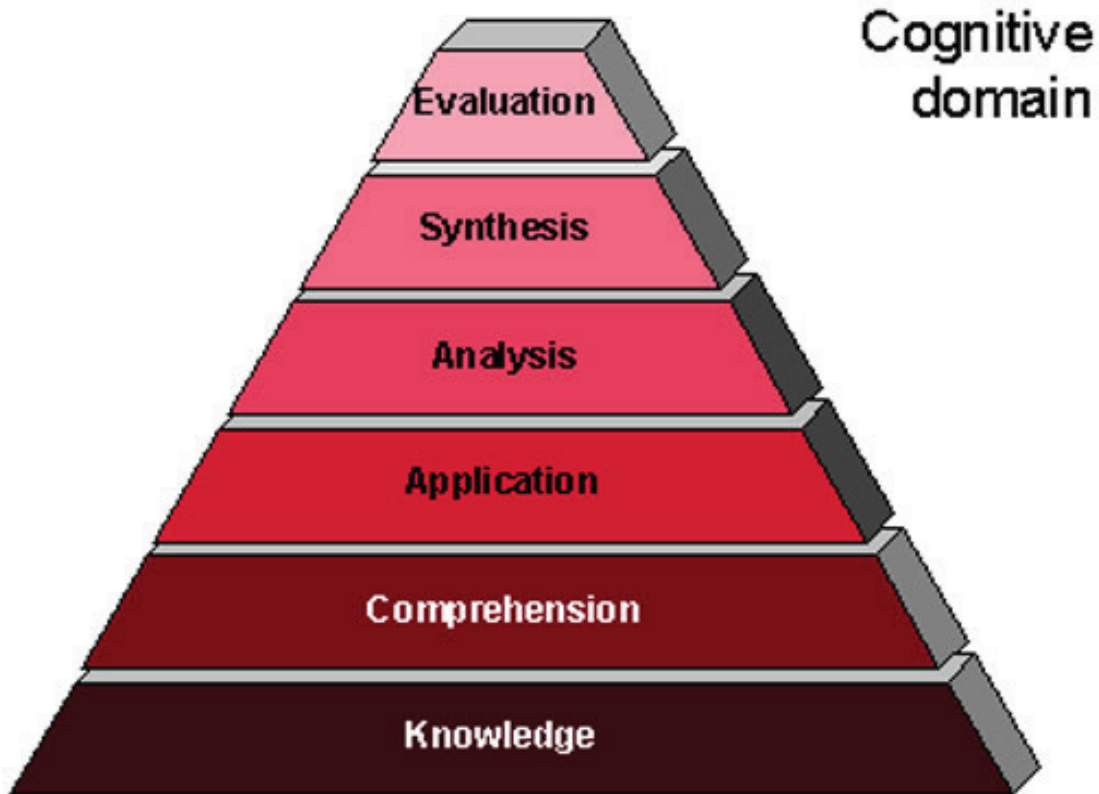
## Bloom's Taxonomy of learning:

Bloom's Taxonomy was created in 1956 under the leadership of educational psychologist Dr Benjamin Bloom in order to promote higher forms of thinking in education, such as analyzing and evaluating concepts, processes, procedures, and principles, rather than just remembering facts (rote learning). It is most often used when designing educational, training, and learning processes.

«Taxonomy» simply means «classification», so the well-known taxonomy of learning objectives is an attempt to classify forms and levels of learning. It identifies three «domains» of learning, each of which is organized as a series of levels or pre-requisites. It is suggested that one cannot effectively address higher levels until those below them have been covered (it is thus effectively serial in structure). As well as providing a basic sequential model for dealing with topics in the curriculum, it also suggests a way of categorizing levels of learning, in terms of the expected ceiling for a given programme. Thus in the Cognitive domain, training for technicians may cover knowledge, comprehension and application, but not concern itself with analysis and above, whereas full professional training may be expected to include this and synthesis and evaluation as well.

## Domains of learning:

**Cognitive:** the most-used of the domains, refers to knowledge structures (although sheer “knowing the facts” is its bottom level). It can be viewed as a sequence of progressive contextualization of the material. (Based on Bloom, 1956).

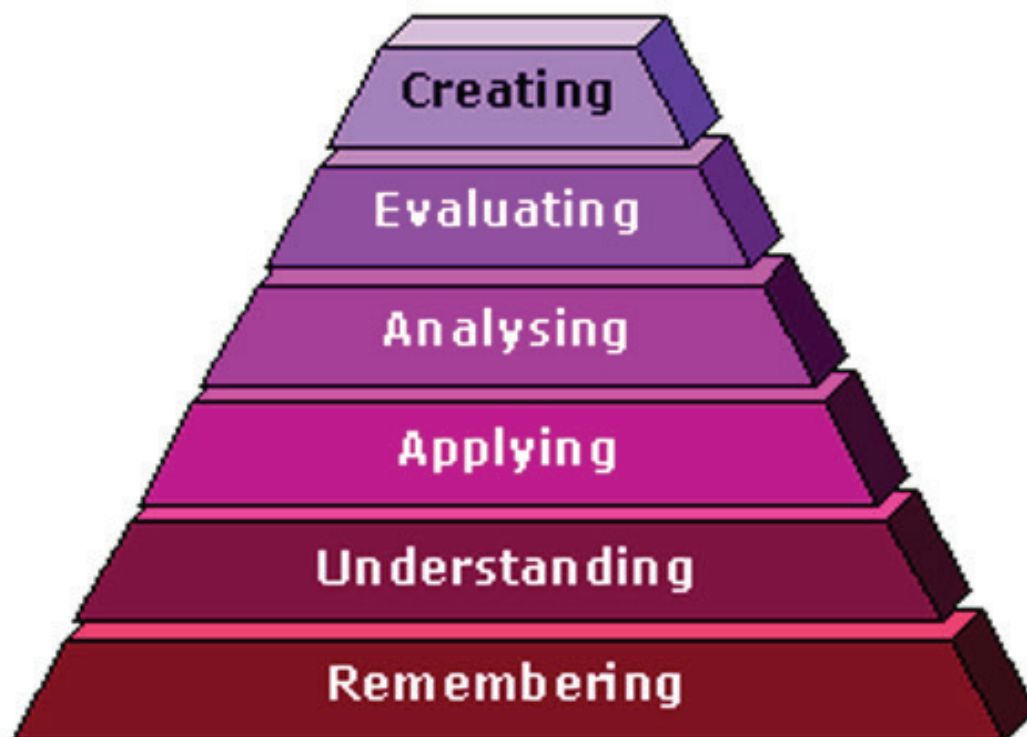


The model above is included because it is still common currency, but there is much of criticism of this original taxonomy which was focused on problems with the higher level categories. There were concerns that Bloom’s Taxonomy, while somewhat questionable for the lower order skills, was highly questionable for the higher level skills. Marzano and Kendall have observed, „The hierarchical structure of Bloom’s Taxonomy simply did not hold together well from logical or empirical perspectives” . For example, it was particularly difficult for critics to envision that those three higher level categories of Analysis, Synthesis and Evaluation were in the proper order.



## The Revised Taxonomy

One of the authors of the original Bloom's Taxonomy, David R. Krathwohl, was an editor of the revised taxonomy that was published as *A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. The same number of categories that were in the original was retained (six), but three were renamed and the problematic order of the two highest categories was reversed. The categories in the Revised Bloom's Taxonomy are shown below :

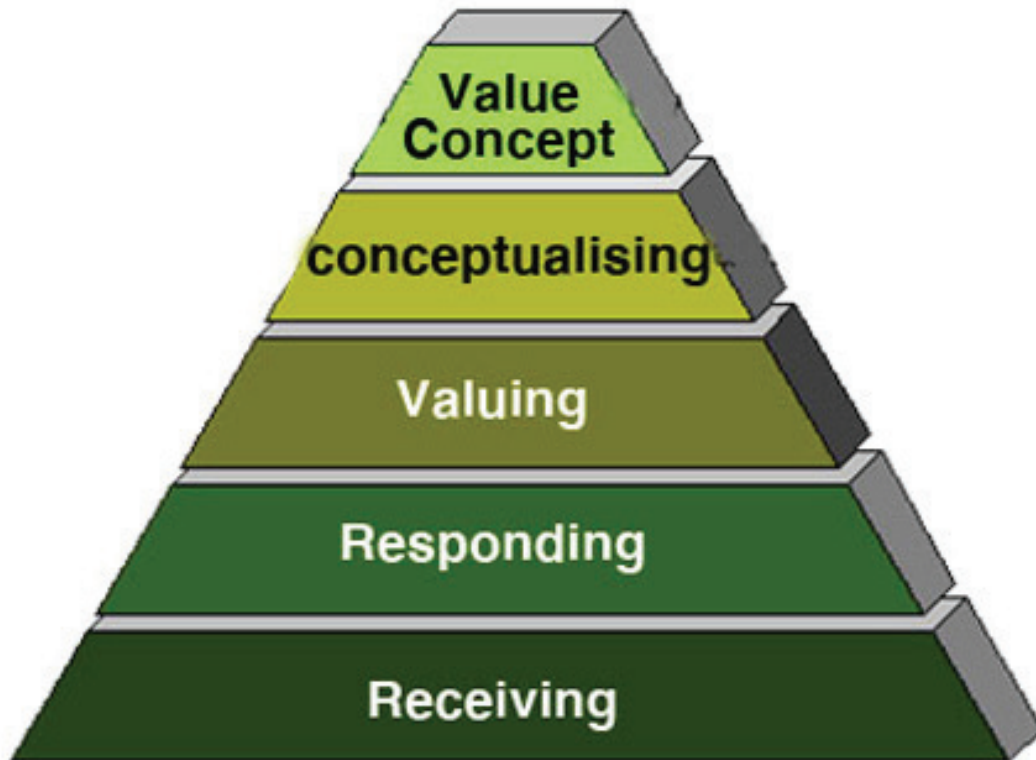


Revised taxonomy of the cognitive domain following Anderson and Krathwohl (2001)

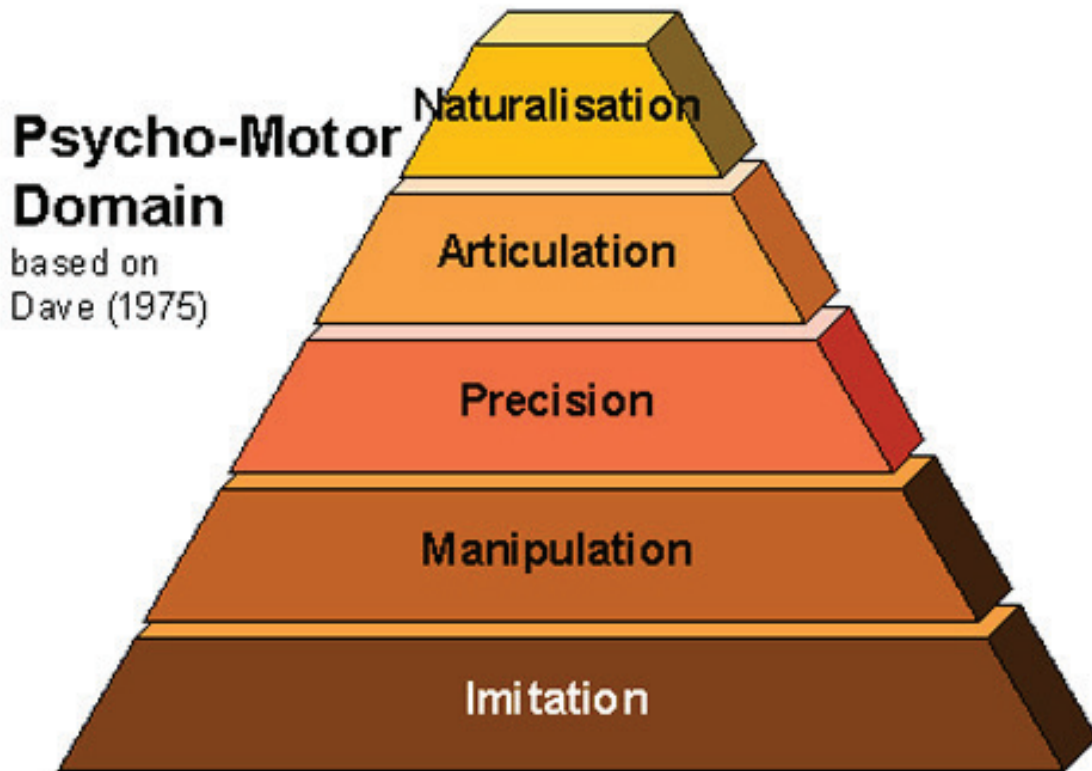
Note the new top category, which is about being able to create new knowledge within the domain, and the move from nouns to verbs.

**Affective:** the Affective domain has received less attention, and is less intuitive than the Cognitive. It is concerned with values, or more precisely perhaps with perception of value issues, and ranges from mere awareness (Receiving), through to being able to distinguish implicit values through analysis. (Kratwohl, Bloom and Masia (1964).

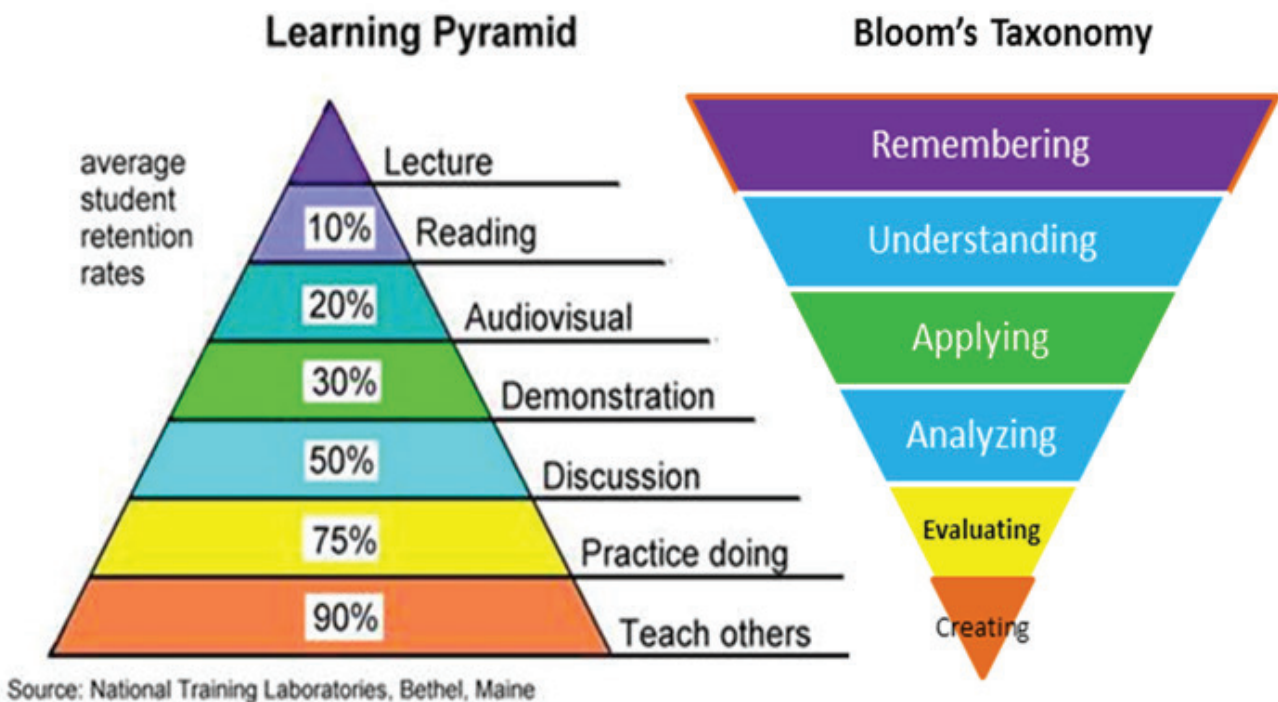
## Affective Domain



**Psycho-Motor:** Bloom never completed work on this domain, and there have been several attempts to complete it. One of the simplest versions has been suggested by Dave (1975): it fits with the model of developing skill put forward by Reynolds (1965), and it also draws attention to the fundamental role of imitation in skill acquisition.



**Relation between learning pyramid & Bloom's Taxonomy:**



## What delivery method should I use?

After determining learning objectives, the next step is the selection of teaching strategies or methods in relation to the desired objectives.

Active learning instructional strategies can be created and used to engage students in thinking critically or creatively, speaking with a partner, in a small group, or with the entire class, expressing ideas through writing, exploring personal attitudes and values, giving and receiving feedback, and reflecting upon the learning process.

It should also be noted that active learning instructional strategies can be completed by students either in -class or out -of- class, be done by students working either as individuals or in group, and be done either with or without the use of technology tools.

Though a well-crafted and captivating lecture presentation would seem to be an especially time efficient way for an instructor to cover course content, converging evidence from a wide variety of different types of sources indicates that listening to a classroom lecture is not an especially effective way to promote deep and lasting student learning. As many have long maintained, more commonly lecturing involves the transfer of information from the notes of the lecturer to the notes of the student without passing through the minds of either.

Interactive lectures may be the answer, as they are presentations that provide students with multiple brief opportunities for structured engagement. In contrast to the traditional lecture, interactive lectures involve both several relatively brief segments of instructor talk (or mini-lectures) and explicit opportunities for student thinking and responding. To distinguish further between -traditional and -interactive lectures- consider the following:

Traditional Lectures	Interactive Lectures
Instructor talks & students listen with minimal interruptions	Instructor talks with periodic pauses for structured activities
Student concentration can be observed minutes 10-15 dropping after	As student concentration begins to wane, a short structured in-class activity is assigned
Instructor's questions are largely rhetorical	Instructor's questions require responses
Students' responses to an instructor's questions are commonly made by students raising their hands	Students' responses to an instructor's questions are commonly made by using a clicker or an IF-AT Answer Sheet
Student-to-student talk is discouraged	Student-to-student talk is encouraged
Students listen and take notes independently	Students often work with partners or in groups
Student comprehension during the lecture is not monitored explicitly	Student comprehension during the lecture is assessed directly
Opportunities to correct misunderstandings are not provided routinely during the lecture	Opportunities to correct misunderstandings are periodically provided within the lecture
Student absenteeism often is quite high	High rates of attendance often are reported

## Possible Activities of learning instructional strategies:

There are many ways to deliver your training, depending on the type of learning you are developing.

In-class activities	Out of class activities
<ul style="list-style-type: none"><li>• Lectures,</li><li>• Tutorial,</li><li>• Lab,</li><li>• Class Discussion,</li><li>• Thinking-based Activity,</li><li>• Problem-based Instruction,</li><li>• Structured case summaries</li><li>• Case based discussion</li></ul>	<ul style="list-style-type: none"><li>• Log books</li><li>• Exercises,</li><li>• Textbook Problems,</li><li>• Online Discussion,</li><li>• Project,</li><li>• Group Project,</li><li>• Reading/Self-study,</li><li>• Research,</li></ul>

## Using Summative Assessment Strategies:

Giving a test or quiz to measure student learning for purposes of grading offer yet another approach to stimulating active student engagement both in-and out-of-class.

There is considerable research evidence to support the proposition that the nature of the classroom test given influences what students study and how students learn.

For example, the «two most frequently asked questions on all campuses are: «Will that be on the final?» and «Will the test be objective or essay?» If the answer to the first question is «no,» studying and learning often cease. If the answer to the second question is «multiple-choice» students will memorize isolated facts; but if the answer is «essay,» students will attempt to exercise higher-order mental processes such as critical thinking and evaluating».

Below are a few of the key methods and some pros and cons of using them:

Delivery Method	Description	Advantages	Disadvantages
In-person learning	,Classroom setting traditional, Formal learning	Effective when sharing information with large group, build bonds	Establishes a “tell-me” mindset, places burden of learning on teacher
E-learning	Computer-based, often distance-based	Provides training when learners need it, flexible	Loss of personal contact, computer-based tasks can be time-consuming for some, issues of access for those with disabilities
Problem-based learning	Problem comes first and learners work through it, often in teams	Actively involves participants, stimulates peer group learning, promotes critical thinking	Can lose focus, can challenge inclusivity of group, can be difficult if there is a wide variety of skill sets among members
Blended learning	A hybrid of in-person and e-learning	Combines the best from multiple types of delivery methods	May be difficult for some learners to follow, may need additional reinforcement to stay on task
Non-formal learning	Most closely associated with skill or certificate programs	Structured learning environment, intentional to specific skills, or professional development	Often takes places outside of an academic organization, may not lead to recognized certification or licensure
Discussion	It is techniques used for pulling knowledge and ideas	Students actively involved, share their experiences, and provide means of communication and .feedback	Time consuming, and unfocused unless the instructor makes an effort to direct the .flow  Class size must be .restricted

## Linking Objective, Learning Activity and Assessment

Classification	Instructional Objectives The student will be able to:	Learning Activities/ Teaching Method	Assessment Methods
Remembering Recalling specific information	Recognize List Describe Identify Retrieve Name Locate/Find	Graphic Organizers Mnemonics Crosswords Puzzles Jeopardy or other games Note Taking Drill and Practice Flash Cards	Simple Multiple Choice (MCQ) True/False Fill in the blank Label Diagram
Explaining Explaining ideas or concepts	Interpret Summarize Infer Paraphrase Classify Explain Attribute	Concept mapping Short Case Cooperative Task Write, Pair, Share Role Play Matching Games	Short Case Short Answer Blog/Journal Graphing Matching Short Presentation Poster Session
Applying Using information in another familiar situation	Implement Carry out Use Execute Operate Take	Simulation Lab Discuss Rounds Cases Standardized Patients Virtual Patients Chart Review 0 Step Procedure Teaching Field Trips	Demonstration Case Study SOAP 37. Assessment Patient/family Assessment OSCE MCQ with vignettes



Classification	Instructional Objectives The student will be able to:	Learning Activities/ Teaching Method	Assessment Methods
<p>Analyzing</p> <p>Breaking information into parts to explore understandings and relationships</p>	<p>Analyze</p> <p>Compare</p> <p>Contrast</p> <p>Organize</p> <p>Deconstruct</p> <p>Outline</p> <p>Structure</p> <p>Integrate</p>	<p>Collaborative Tasks</p> <p>PBL</p> <p>Spreadsheets</p> <p>Research Project</p> <p>Project</p> <p>10 Minute Preceptor</p> <p>Writing a Wiki</p> <p>Reflection</p> <p>Problem Solving</p> <p>Open Ended Questions</p> <p>Complex Case Study</p> <p>Concept mapping</p>	<p>Survey Report</p> <p>Paper</p> <p>Project Report</p> <p>Group Presentation</p> <p>Grand Rounds</p> <p>Create a Mind Map</p> <p>Reflective Writing</p> <p>Problem Identification</p> <p>Complex Case Study</p> <p>Extended Matching</p> <p>MCQ</p>
<p>Evaluating</p> <p>Judging the value of ideas, materials and methods by developing and applying standards and criteria</p>	<p>Check</p> <p>Hypothesise</p> <p>Critique</p> <p>Judge</p> <p>Test</p> <p>Detect</p> <p>Experiment</p> <p>Monitor</p> <p>Value</p>	<p>PBL</p> <p>Complex Case Study</p> <p>Research Project</p> <p>Discussion</p> <p>Critical Thinking Exercises</p> <p>Critiquing Exercises</p> <p>Feedback</p> <p>Error Identification</p> <p>Reflection</p>	<p>Peer Review</p> <p>Create Rubrics</p> <p>Comparison Report</p> <p>Criteria Selection Tasks</p> <p>Error Identification</p> <p>Project Report</p> <p>Rubric</p>
<p>Creating</p> <p>Putting together ideas or elements to develop an original idea or engage in creative thinking</p>	<p>Design</p> <p>Construct</p> <p>Plan</p> <p>Produce</p> <p>Invent</p> <p>Devise</p> <p>Make</p> <p>Build</p>	<p>Produce a Video, Art, Animation, Photograph, Roleplay, Concert, Game, Practice Guidelines</p> <p>Build a Model, Simulation</p> <p>Publish a Blog, Journal Article, Poster Session</p>	<p>Final Product</p> <p>Rubric</p> <p>Peer Review</p> <p>Expert Review</p> <p>Creativity Rubric</p>

## **How do I facilitate effectively in the classroom?**

How effectively your course is received depends largely on the learning atmosphere you set up and model for your participants. Students come to class expecting us to set the tone, if the tone we establish is positive and professional, they'll match that tone, and if our attitude is negative and aggressive, they'll respond in kind. Create an environment that supports learning and encourage different points of view, but Maintain rigor and excite students about content.

Touch the Heart, and then teach the Students, because until you connect with students emotionally, you may never be able to connect with their minds.

Formulate specific goals and objectives and then select the best methods for meeting those objectives. Share the course objectives with the students to clarify expectations for the students and open communication.

Work to build rapport with students. Establish a productive learning atmosphere, and Use effective communication skills.

Consistently compliment and praise students. Effective teachers look for opportunities to find people doing things right and knows how to praise those people so they'll keep on doing things right. Note that praise must be clean, try not to include the word "But."

## Where to Go From Here?

**Effective Learning:** Effective learning is the process of embedding knowledge, skills, and attitudes in memory; it is *a relatively durable change in the memory of an individual*.

The purpose of teaching is to facilitate learning. It should help the student to create an **interest** in learning for the topic in particular and more knowledge in general. Acquire, retain and **utilize** the knowledge. Achieve appropriate skills and use them with confidence and develop proper **life - long learning** habits and attitudes.

When and where one gets the new experiences and how often these are repeated, is referred to as learning opportunities. A new experience, a new piece of information may be first heard and seen during a lecture and may be accepted and analyzed as something relevant and important. On reflection, it may seem to be significant for some purpose. On recall it may be spoken aloud or written/ drawn on a paper, analyzed to be incompletely recalled, may be library or may be discussed with a friend and ultimately may become a part of the permanent memory. This is how learning occurs. Learning is to progress from one step to another.

When an instructor employs active learning strategies, he or she will typically will spend greater proportion of time helping students develop their understanding and skills (promoting deep learning) and a lesser proportion of time transmitting information (i.e., supporting surface learning). In addition, the instructor will provide opportunities for students to apply and demonstrate what they are learning and to receive immediate feedback from peers and/or the instructor. This identifies how the curriculum is aligned with the projected outcome.

### Summary:

The teacher must carefully think through the instructional sequence and build in opportunities for the students to interact with the information in a relevant and meaningful manner. High performance is never an accident; it is always the result of high intention, sincere effort, intelligent direction, careful planning, and skillful execution; it represents the wise choice of many alternatives. The change in the faculty role over years led to the adoption of the students centered learning concept.

**Key terms:**

- Teaching.
- Learning.
- Learning outcome.
- Effective teacher.
- In class activity.
- Out class activity.

**Review questions:**

- Differentiate between student centered learning and teacher centered learning?
- What are the key steps of learning/memory cycle?
- What are the types of learning strategy?

**Problems:**

- What are the domains of learning adopted by the NCAAA?
- How to select the appropriate methods of teaching and learning according to desired learning outcomes?

**Frequently Asked Question:**

- How to enhance teaching?
- How to create safe environment for teaching and learning?

## Chapter II. strategy of Large Group Teaching

### **The main goal of this chapter training:**

The main goal of this session is the training of the target group on the preparation, Delivery and Evaluation of Large group teaching session according to scientific bases and the rules and requirements of NCAAA.

### **Learning outcomes of chapter II:**

By the end of this session, trainee will be able to:

- Prepare an interactive large group teaching session.
- Effectively deliver lecture for large group of students.
- Motivate students to actively participate in lectures.
- Use different interactive techniques in lecture for achieving Intended Learning outcomes.
- Evaluate lectures in terms of design and delivery.
- Get Feedback on large group teaching session.

### **Introduction:**

Large group teaching is often thought of as the same as lecturing. While the lecture is still a very common teaching method in most medical schools we want to encourage you to think more creatively about how you might be Stuey our time when faced with a large group of students. There are good educational reasons form moving away from the traditional approach of 'lecturing' to groups of passive students to strategies which introduce more active learning. While the solution to this concern may, in part, involve replacing the notion of large group teaching with alternative approaches, such as small group teaching or distance learning, were cognize that other factors may preclude such options. Should this be the case we believe that you can employ arrange of techniques in the large group situation which will engage your students enthusiastically in active learning, provide them with immediate feedback and build a productive and scholarly relationship.

## The context of large group teaching

An important preliminary step in your preparation is to find out as much as you can about the context of your teaching in the overall teaching programme or course. Unfortunately this context is often ill defined and may be only a title in a long list of topics given out by the department or school. However, do try to find out as much as you can. This means enquiring about such things as:

- What students have been taught (and what they may know)?
- What the purpose of your teaching session is to be, what resources, such as library materials, are available for students?
- What the assessment arrangements for the course or unit are?
- What methods have been used to teach students in the past?

## What is the purpose of large group teaching?

Having clarified the context of your large group teaching session you need to ask yourself 'What is its purpose?' This is a question you should always ask so that you have a clear idea about matching ends with means. A possible range of answers is given below, many of which will overlap.

- To **encourage** thinking skills.
- **Examples:** Interpret a set of statistical data; evaluate a research proposal; criticize a journal article or medical treatment plan; apply earlier learning to a novel situation.
- To **construct** an academic argument.
- **Example:** Present the pro and con arguments with respect to a health policy issue.
- To **present** students within formation about a subject.
- **Example:** Review and comment on the research on a particular subject.
- To **demonstrate** a procedure, a way of thinking, or approach to problem solving.

**Examples:** Lead students through haline of reasoning about a problem; demonstrate a clinical or technical procedure.

Resolving the purpose of your large group teaching will be a useful benchmark throughout the process of preparation, presentation and final evaluation.

## **Lecture:**

Lectures are probably most useful for giving a general introduction to a topic area, delivery of information; give broad overviews of content which is then followed by more active individual work from students to practice the material in more depth. It is Most Effective Common method in teaching lower cognitive levels of knowledge and comprehension. The lecture itself does not teach the students to analyze; it merely illustrates the process.

## **Giving a Lecture:**

Lectures seem to have attracted a negative feeling, possibly because we have experience too many that have diminished rather than enhanced our learning. They are often viewed as old fashioned and didactic. However a “lecture” (45=60 minute session with a large group of people) can be whatever you want to make of it.

## **Advantages of a lecture:**

- Is effective but not more effective than other methods for teaching information (e.g., studies suggest unsupervised reading is better than lectures).
- Is liked by learners when a lecture is really good, but learners prefer well conducted group work.

## **Disadvantages of a lecture:**

- Unless carefully crafted, is often an ineffective method for stimulating higher order thinking (getting participants to analyses and apply knowledge).
- Is unreliable for inspiring or positively changing learner’ attitudes.

**(Biggs, 2002)**

Lectures have an important role in education, being cost-effective as regards exposure to students, and control of topics. The challenge is to make them educationally optimal. To do this planning and structure are essential.

Advantages	Disadvantages
1. The lecture can be used in any size class and is often the only option in large classes.	1. The lecture is a teacher-centered, which does not allow for differences in student learning styles or rates
2. A well-presented lecture can be motivating to the students and inspire them to pursue a topic on their own.	2. Minimal student participation (promotes passivity in students).
3. The instructor has total control over what occurs in class	3. Learning from lectures depends on the students' abilities to take notes.
	4. Because the lecture is teacher-centered, it tends to promote one-way communication

**Table ( 1 ) Advantages and Disadvantages of Lectures**

### **Active Learning in Large Groups:**

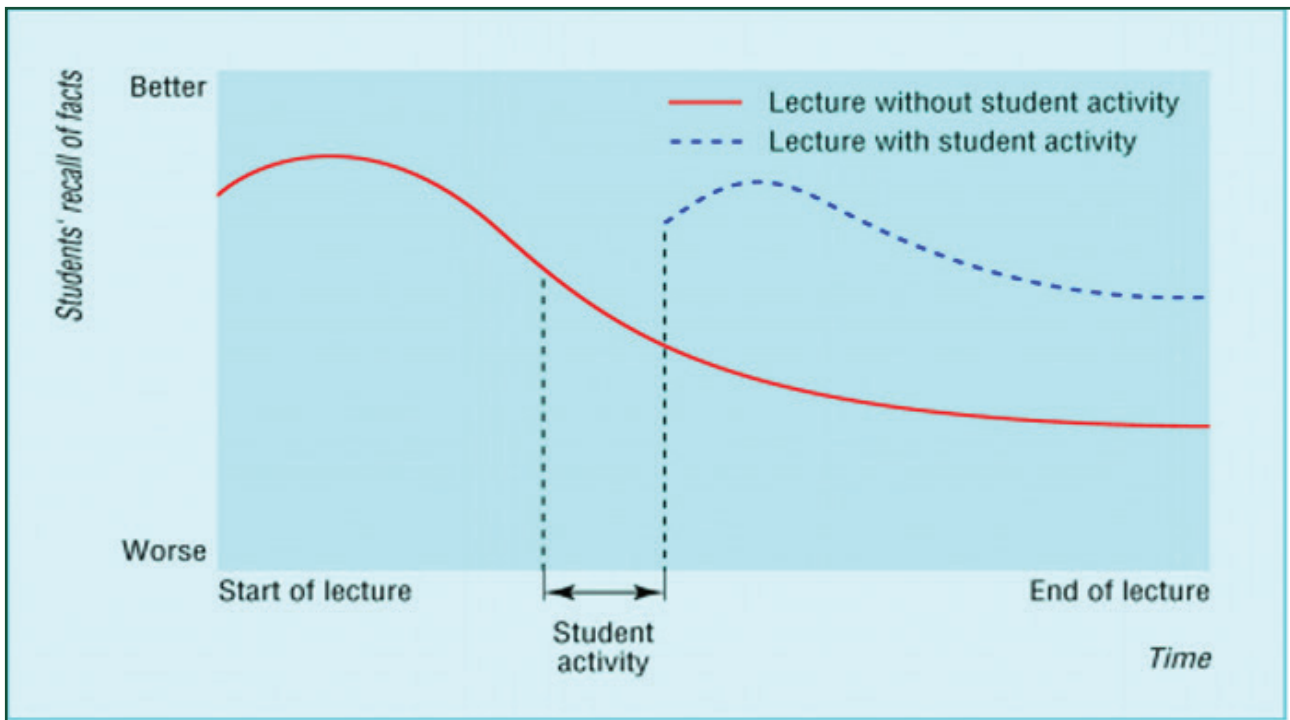
Although lectures when the teacher does all the talking can be highly effective, consider making the session interactive, translating techniques you would use in a small group, into the large group setting.

- Research shows that learners learn more effectively when they are actively involved than when they are passive (Steinert& Snell, 1999).
- Memory is enhanced by the increased attention and motivation of active involvement.
- Promotes higher order thinking.
- Facilitates mutual teacher/learner feedback.
- Increases teacher/learner satisfaction.

### **Large group learning activities include:**

- Working in pairs or small groups.
- Questioning, including short answer quizzes and surveys.
- Use of clinical case problem solving.
- Handouts: to influence and guide note-taking; structure discussions, pose questions, extend or supplement the content of the session.
- Guests and debates.
- Simulation and role plays.
- Visual resources such as showing still pictures of video clips of scenarios.





### Visual Resources and Handouts:

Visual aids have become the norm for many presentations and can powerfully provide a summary of data or a striking visual representation.

More and more we hear about (and have experienced) death by Power Point; that is the presentation takes precedence over the topic. Work has shown that such visual aids can be used to inflate the impression of how much data is available or the significance of the data. If you are going to give a presentation and are planning how to do it, ask yourself:

- Do I need visual aids at all? Just because everyone else does is not a reason you need to. What will they add? Just talking can be powerful.
- If you do decide to use them, are there any different ways to do it? Trisha Greenhalgh was challenged by a colleague to give a presentation on the state of primary care with all pictures (no words) (Greenhalgh, BMJ, 2008). It was successful – although it did take a lot of planning.
- Keep your visual aids simple enough so if the technology fails, the session is not a complete failure or waste of participants time. If they contain complex data, have a summary handout and refer the audience to that as you are talking.

## Visual Resources

### Should:

- Be planned.
- Be easily visible and audible.
- Reinforce key points.

### Should not:

- Be overused.
- Be used without a clear and specific purpose.
- Substitute for inadequate preparation.
- Distract from your ideas.

### PowerPoint:

These allow you to face the audience while presenting information. They can also give a visual representation (graph, photograph) that can powerfully make a point. They are most suitable for large groups, but can be used for any sized group. However in a small group, when you can easily show data to the group, they are generally distracting and more trouble than they are worth.

### They:

- Encourage an organized and structured approach.
- Can encourage active learning by summarizing main points.
- Can summarise complex data in a pictorial form.
- Focus the learners' attention.
- Act as an aid memoire for you.

### They shouldn't:

- Divert from the topic.
- Interrupt the contact between the teacher and students.

### To create effective slides:

- Use slides to supplement your presentation.
- Use an easy to read font such as Arial or Helvetica.
- Limit each slide to one main idea (max 15-20 words).
- Use a large font (drop an overhead on the floor and it should be easily readable).
- Use several simple slides rather than one complex one (otherwise the audience concentrates on the slides and stops listening to you).
- Look at each slide and ask – Can I remove and words? Can I simplify and speak to it rather than read it?

- Clearly title data.
- Use blank (black) slides for pauses to speak, or to separate into sections.
- Use a duplicate when referring back to information on a previous slide.
- Arrange the slides for good visual pace.
- Plan on no more than one slide per minute.
- Technology fails - always have an alternative for use when the computer/software/projector fails, like a handout you can refer them to if the data is complex or a whiteboard if it is simple.

### **Handouts:**

Research suggests that learners appreciate handouts and achieve higher assessment scores from lectures that are accompanied by handouts. Handouts can guide and influence the quality of note taking.

Studies show skeletal notes (where students fill in the details) encourage better note taking, and greater use of notes for review purposes. This guides note taking (and avoids rote note-taking). Don't give out complete session notes (why bother coming?). For new students it may be useful to demonstrate how to take notes and how to use notes for assignments.

### **Handouts can be used to:**

- Show structure.
- Guide an activity.
- Ask questions.
- Pose problems to be solved.
- Detailed info not covered in session (hand-out later!).
- Guide further study, reading.

### **Remember:**

- Keep handouts simple with information clearly laid out.
- Ensure you have enough for the number in the class.
- Distribute any detailed handouts at the end of a session rather than the beginning if you want them to concentrate on what you are saying.

## **Lecture Evaluation:**

Improving the quality of your teaching in large groups will depend on a combination of experience and your willingness to critically evaluate your performance. Evaluation may be seen as informal or formal. The informal way may involve asking several students whom you know for their comments. It is a satisfying experience to teach effectively. To teach ineffectively is usually distressing. Evaluation gives us information to guide improvements, which will result in our increased satisfaction.

## **Simple Ways:**

### **Ask yourself:**

- Stop and do the positive critique - What went well? What could have gone better? What will I do differently next time?
- How much time was taken to prepare? Were the notes helpful?
- Were the visual aids clear and easy to read?
- What steps could be taken to improve preparation and organization of the active learning tasks?
- Did the questions stimulate discussion?
- What did I learn about students understanding from their questions/ comments/written responses to the CATs?
- Were the purposes of the session achieved? How do I know this?
- Monitor students' progress - are they achieving planned objectives on time? Are their results (good or bad) related to your teaching or some other factor?

### **Ask learners:**

- Ask for verbal feedback from individuals or the group at the end of the session – ask for what went well and what could be improved indicating you are interested in changing things.
- Ask students to complete a one minute paper (what are the 3 important points from today OR what is still unclear, the muddy points)

## **More complicated ways:**

### **Ask yourself:**

- Tape record your teaching session and critique it.
- Establish and maintain a teaching portfolio.

## **Ask learners:**

- Ask learners to complete a session evaluation questionnaire (this has the advantage of being anonymous). Identify any positive and negatives in your teaching. Ask learners to respond (anonymously) to a questionnaire you construct using items from the Positive/Negative Learning Climate Table in these notes.
- Organize a university SPOT (Student Perception of Teaching) evaluation.
- Videotape the session for private viewing and organize with a colleague to jointly view and critique it.
- Ask a colleague:
- Arrange with a colleague to observe and give feedback on aspects of each other's teaching.

## **Summary:**

Lecturing can only be a useful learning method for students where the techniques of teaching large groups are appropriately employed. A variety of tools for active learning were covered and also preparing handouts and PowerPoint for effective learning was included. Different methods for lecture evaluation should be an integral part of lecture preparation.

## **Key terms:**

- Large Group Teaching.
- Lecture.
- Interactive Teaching.
- PowerPoint.
- Handouts.
- Lecture Evaluation.

## **Review questions:**

- What active learning strategies are available can you used in lectures?
- What are the criteria of good PowerPoint presentation?
- How can you evaluate your lecture?

## **Problems:**

- What are the unexpected difficulties, you can meet during large group teaching?
- What can you do when things go wrong during lecture

## **Frequently asked questions:**

- Can I avoid using lecture as a teaching strategy due to its advantages as large group teaching technique?
- What is the proper number of students for a lecture?
- What is the best interactive method to be used in lectures?

## Chapter III. Strategy of Small Group Learning

### **The Main Goal of The main Goal of this Module Training:**

Is to explain to the target group the principals of selecting, designing and conducting the small group learning sessions according to the intended learning outcomes.

### **Learning Outcomes of Chapter III :**

- Explain the concepts of small group learning (SGL).
- Identify the pros and cons of SGL.
- Choose the suitable methods of SGL according to the learning outcome.
- Identify obstacles during implementation of SGL.
- Evaluate the process of SGL.

### **Introduction:**

#### **What is small group learning (SGL)?**

#### **Learning in a group that shows three characteristics:**

- Active participation.
- A specific task.
- Reflection.

These three characteristics of SGL may be more obviously displayed in groups that are small in numbers. However, a skilled facilitator may be able to engender some of these qualities in larger groups.

#### **1. Active participation**

- Interaction should take place among all present.
- Levels of participation may vary among members.
- A significant aspect of group work is the response of participants to other members in the group.
- This is much easier to achieve around a small table or in an open circle rather than with the students sitting in rows or around long tables.
- Ensure that members of a group can see each other, to pick up visual and verbal cues from each other.

#### **2. A specific task**

- The group must have a clearly defined and focused task and objectives.
- They should be clearly understood by all members of the group.
- Unclear objectives can cause frustration for the teacher (Tiberius, 1990) as well as the students who appear unresponsive.

### **3. Reflection**

- In SGL, it is important to learn from an experience and to modify behavior accordingly.
- Deep learning is a key feature of SGL and reflection is a key feature of deep learning.
- Reflection may be explicitly scheduled into a session.
- The importance of reflection was highlighted by Kolb (1984) in his experiential learning cycle.

## **What are the benefits of SGL?**

### **1. Actively learn:**

Group discussion activates previously acquired understanding, helping identify any deficits and facilitating new comprehensions.

### **2. Encourages self-motivation**

Students and staff both report, as a result of working in small groups, increased short-term motivation and satisfaction with learning.

### **3. Allows application and development of ideas**

As SGL is associated with involvement is the opportunity to apply ideas. A didactic lecture seldom allows students to test out hypotheses or to explore different possibilities.

### **4. Promotes deep learning:**

- For surface learning - learning only facts - lectures may even be superior. In a group, members are more likely to exhibit a deep-learning approach.
- Students understand and make personal sense of the material rather than just memorizing and reproducing.
- Small-group work is better than a lecture for higher-order activities e.g. analysis, evaluation and synthesis.

### **5. Promotes an adult style of learning**

Group work can help in; value clarification, attitudinal change, being acknowledged as an individual, development of self-esteem, increased self- confidence.

### **6. Develops transferable skills**

SGL can help in developing:

- Leadership.
- Teamwork.
- Organization.
- Giving support.
- Prioritizing.
- Setting tasks.
- Encouragement to others.
- Problem solving.
- Monitoring environment.
- Managing time.

### **Some reported problems that were faced during conducting the SGL:**

- Students do not like SGL.
- Faculty do not know how to conduct SGL.
- Do not have enough teachers for SGL.
- There are too few rooms.
- It is a waste of time – students do not learn anything

### **What are the different methods to conduct SGL?**

- Tutorial.
- Seminar.
- Snowballing.
- Free-discussion group.
- Problem-based learning.
- Brainstorming.
- Role play.
- Games and simulations.
- Clinical teaching.
- Others.

## **1. Tutorials:**

### **What is a Tutorial?**

In a tutorial, the group discusses material already covered earlier (e.g. in lectures) or previously assigned by the teacher or questions for students to consider. The tutor can ask students to read a specific passage, problem or case.

### **Example of learning material in a tutorial:**

A 20-year-old girl comes to you. She complains of nervousness, heat intolerance and has a goiter and a tachycardia. However, your partner, who has been seeing her, feels that thyrotoxicosis is extremely unlikely in view of a history of a one-stone increase in weight over the past year. Do you agree? If so, what is your diagnosis? How would you confirm the diagnosis biochemically? (Paterson, 1996).

### **How to conduct a tutorial?**

The student has a responsibility to prepare for the session and to determine which aspects require clarification.

The teacher should focus entirely on work prepared by the student (Jacques, 1985).

A student may be asked, as a volunteer, to answer a pre-set question or to ask their own question on the material received and read.

After answering a pre-set question, the student may generate further questions.



## 2. Seminar



### **What is Seminar?**

The seminar promotes research ability, presentation skills and critical discussion. The teacher negotiates with students a piece of work for the students to present. Ideally, the group collaboratively decides on the nature of the work for presentation and discussion (Steffens, 1989).

Preparing for a presentation is one of the most effective ways to learn (Raaheim, 1991).

### **How to conduct a Seminar?**

All students prepare the material, days or weeks between receiving the task and making the presentation, and then it is presented to the group by one or more students.

Students should be encouraged to discuss, to analyze and to evaluate critically the material presented to them.

The presentations should only take a quarter to a half of the total time available.

During the session, the teacher may also probe the students' understanding of the material presented.

Adequate time must be allowed for the group to give feedback. That feedback should be a substantial part.

### 3. Snowballing

What is Snowballing?

Snowballing allows clarification of ideas and values. It is especially useful for students and the teacher to determine the level of the students' development and understanding. In snowballing, the teacher divides the group into pairs. The students can select their own pairing.

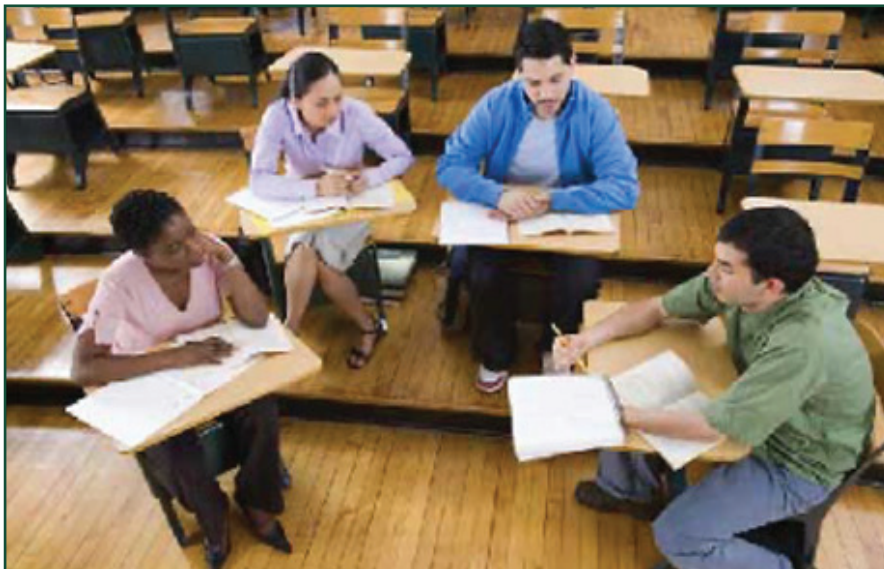
The teacher assigns to all pairs of students prepared stimulus material on a topic or issue. This stimulus material may be verbal or a written. The pairs discuss this topic or issue.

The complexity of the topic, and the time available, determines the time allocated for this stage of the session. Each pair then joins with another pair (four-person group) to compare and contrast differences in their understanding.

That group of four may then combine similarly with another group of four. The process is continued until the whole group meets to finalize deliberations in a plenary session.

The teacher should facilitate the final group discussion.

### 4. Free-discussion group



#### What is free-discussion group?

The free discussion group intends to foster interaction and exploration of values and feelings. The teacher introduces stimulus material which the free-discussion group discusses. The material may be given out prior to, or during, the session. The stimulus material may take any form, e.g. a brief written scenario, data, a video clip.

It may be controversial or sensitive e.g. on abortion or euthanasia. It may challenge cognitive understanding, e.g. the mechanisms or actions of drugs.

### **How to conduct a free-discussion group?**

Before the session, consider how long it will take to, introduce the stimulus material, discuss the topic, and summarize the learning that has taken place. Once the teacher has introduced the material, group members discuss it. The teacher should facilitate that discussion, which should range freely within the topic area.

The teacher can facilitate by asking specific and relevant questions. Finally, the teacher should summarize the discussion especially if a contentious issue is discussed.

## **5. Problem-based learning**



### **What is PBL?**

In Problem Based Learning (PBL), small groups of students are presented with contextual situations and asked to define the problem, decide what skills and resources are necessary to investigate the problem and then pose possible solutions (Duch, Groh & Allen, 2001).

**Problem Solving:** Arriving at decisions based on prior knowledge and reasoning.

**Problem Based Learning:** The process of acquiring new knowledge based on recognition of a need to learn.

### **How to conduct a PBL session?**

Small groups of students of less than 8 students each are formed. Groups usually meet twice a week for around 2-3 hours. At the first meeting the new situation or problem (trigger) is explored then identification of the main issues and questions takes place.

Period of individual study (2-3 days) is allowed then the group reconvenes where group discussion and sharing knowledge takes place. Supporting activities (labs, lectures) could be arranged.

### **How to conduct a PBL session?**

According to the Seven Step Model (Wood, 2003):

- **Step 1:** Identify and clarify unfamiliar terms presented in the scenario, (allocate a scribe and a chairperson, define rules).
- **Step 2:** Define the problem or problems to be discussed.
- **Step 3:** Ideas storming session to discuss the problem(s).
- **Step 4:** Review steps 2 and 3 and arrange explanations into tentative solutions.
- **Step 5:** Formulate learning objectives.
- **Step 6:** Private study (all students gather information related to each learning objective).
- **Step 7:** Reconvene - Group shares results of private study.

## 6. Brainstorming:



### What is Brainstorming?

Brainstorming is a particularly attractive technique if creative solutions are being sought. A topic is selected, usually by the teacher, for which solutions or strategies are considered. Brainstorming may form the first stage of a problem-based learning session, when the learning issues are identified.

### How to conduct Brainstorming?

Brainstorming has a simple three-step sequence:

- Generate ideas – For example, students may be asked to describe the different ways medication/drugs can be introduced into the body. The students then offer these solutions/strategies which the teacher writes on a flipchart or board.
- Clarify ideas – The ideas are clarified, and categorized into different areas.
- Evaluate ideas and summarize – The different ideas or categories are then evaluated. The merits of each are considered.

### Race and Smith (1995) offer tips for brainstorming:

- Suggest that all ideas are welcome.
- Allow anyone to 'pass'.
- Get participants to write their ideas and Post-it.
- Continue till there are no more new idea.
- Keep the products of brainstorming in view.



## 7. Role Play

### What is role play?

In Role play, students take on various roles and enact a scenario.

Role playing is particularly valuable in exploring communication issues and attitudes. The teacher negotiates or selects which students play which role and the teacher may also choose the scenario.

### Example of role play:

Steinert, 1993 gives a particularly useful description of role play in clinical teaching.

Students may play their expected role in practice: they may also play the recipients of that practice. For example, in one scenario a student may play the role of a house officer asked to break bad news to a patient. In a second scenario, the same student may play the patient receiving bad news, to engender the feelings that patient experiences.

### How to conduct a role play?

**An understanding** of how that patient feels may help the student to relate to that patient.

**In the first scenario**, the participant practices an activity they will go on to perform.

**In the second**, the student is trying to gauge how the patient feels.

- Because role play allows feelings to be explored, students can rehearse and improve their performance in affective areas of medical care.
- Describe the nature of the session.
- Assign roles.
- Ensure every individual has a clear understanding of their role.
- Give a task to one or more of the role players.
- The tutor may feel that he or she should play one of the roles
- Ask the students to enact an interaction.
- Videotape this, if possible.

## 8. Games and simulations



### What is Games and simulations?

Simulations and games are becoming increasingly popular, because they allow a degree of experiential understanding. To ensure effective transfer of procedural skills, the best approach may be to train people on the job. Participation may engender feelings that benefit, equip and empower participants.

The teacher must be familiar with the game or simulation procedures and its objectives. The teacher should introduce the game to the student players, if necessary explaining the rules and regulations.

During the game, the teacher may also be a player or may facilitate the game. After the game, the teacher should conduct a debriefing session. This will clarify what has been achieved.

Computer programs that simulate practice can successfully raise issues, letting participants practice a variety of scenarios e.g. MACPAC (1996) computer program allows students to manage various patients with terminal cancer.

Students can choose individually, or through group discussion, their preferred management strategies: what information to ask for, what members of the team to involve, what drugs to prescribe.

## 9. Clinical teaching

### What is Clinical teaching?

Clinical teaching is the most familiar small-group method used by medical teachers. It remains the cornerstone of medical teaching. It is frequently conducted around patients' bedsides.

Clinical skills centers are growing in popularity: these reproduce the clinical environment through the use of patients, simulated patients and models.

### What are the requirements of Clinical teaching?

The group-instructional skills of the clinical teachers are considered to be the most important determinant of effective clinical teaching.

The clinical teacher must also; ensure there are relevant patients for the session, understand the stage of the students' education, have a clear idea of the session's objectives.

### How to conduct Clinical teaching?

When performing a task in practice, all three are frequently required. Clinical practice requires communication skills, cognitive skills, perceptual skills, manual skills and management skills.

### For example, to take a blood pressure:

Psychomotor skills are necessary in the manipulation of the cuff.

Cognitive skills are involved in the ability to recall the normal diastolic and systolic values.

Affective skills are needed for communication with the patient.

Clinical teaching allows the integration of all three types of objectives.

### How to evaluate a SGL session?

In order to ensure effective designing and conduction of your SGL session you have to check these important issues:

#### Prior to the small group activity:

- Consider the objectives of the session.
- Determine your available physical and manpower resources.
- Determine the group size and group membership.
- Ensure that the staffs are prepared for the session.
- Select the most appropriate small-group method to fulfill the objectives.
- Develop stimulus material.
- Inform students about course objectives and how small-group work fits in.



### **During the small group activity:**

- Allow adequate introductions – use ice-breakers if necessary.
- Establish ground rules.
- Ensure that the students understand what to do.
- Facilitate learning.

### **After the small group activity:**

- **Debrief** the group on the activity.
- **Reflect** on the experience.
- **Evaluate** the success of the session.

### **Debrief the group on the activity “What has been achieved?”**

- Debriefing summarizes or clarifies what has been learnt and may take as long as the activity itself.
- It may tie up any loose ends and make sense of the experience.
- It may also set the scene for further small group sessions.
- During debriefing, constructive feedback may be given.

### **Reflect on the experience “How can it be improved next time?”**

- Evaluation, formal or informal, is pointless if no change in practice results.
- Competent evaluation, no matter how favorable, will always identify areas for improvement.
- Take time to consider what changes need be made. Also, consider the introduction of new methods or ideas. If the changes are major, perhaps you should try out your new ideas with a small pilot study.
- Reflection cannot be effective in isolation. It should be ongoing, and an integral part of your teaching practice.

### **Evaluate the success of the session**

- As any teaching methods, SGL should be evaluated.
- There are two aspects - achievement and quality.
- Have the objectives been achieved?
- This aspect may be evaluated by how successful the student’s assessment is.
- However, students are resilient. They may learn the material, even if the session is of low quality.
- Was the educational experience of a high standard?
- Ask students to complete an evaluation questionnaire. Include these four questions:

- Did you understand the objectives of the session?
- Did you find the group setting a supportive environment?
- Were you motivated to learn?
- Did you feel that the session met the objectives?

Such questions limit the evaluation.

Complement them with open-ended questions and involve free-text responses,

- What did you like about the session?
- What did you dislike?
- What would you change?

### **Summary**

The term small-group learning can be misleading, as ‘small’ implies no definite number. The number of students that constitutes an effective small group is equivocal in the literature. The SGL depends more on the features displayed by that group than on the number in it.

### **Key terms:**

- Lecture.
- Tutorial.
- Small group teaching.
- Best evidence based medical education.
- Brain storming.
- Snowballing.
- Problem based learning.

### **Review questions:**

- How can you conduct an effective SGL session?
- How do students perceive SGL?
- How does faculty/tutor/instructor perceive the SGL?

### **Problems:**

You have to start designing a SGL session that is in line with your course outcome/s, and choose the appropriate method to conduct it taking into consideration the students’ experience and preparedness for this methodology you will adopt.

### **Frequently asked questions:**

- What is the number of students that constitutes effective small group learning?
- What are the best practices for conducting small group learning?

# Chapter IV-Flipped Classroom and Team Based Learning

## 1- Flipped Classroom

This is a pedagogical model in which the typical lecture and homework elements of a course are reversed. The 'homework' consists of preparative material learned before the live learning session. In the subsequent large class setting, lecture is replaced with active learning methods. Such methods, such as those above, are combined in sequence to challenge students to achieve higher levels of learning.

A number of studies demonstrate better examination performance relative to historical controls in flipped classrooms. Importantly, in several studies, failure rates decreased up to 60% when using the flipped model. Results of flipped classroom satisfaction studies range from equivocal to favouring the approach. Further research needs to determine which topics and student populations benefit from which types of active learning methods; however, faculty can be assured that the flipped classroom will likely enhance student engagement and performance.

Initial implementation of the flipped classroom requires significant preparation time by the instructor. This decreases in subsequent years. Planning a flipped classroom consists of four steps: determining out-of-class homework, developing the activity, running the session, and evaluation.

### **Out-of-Class Homework:**

Out-of-class homework can consist of podcasts or videocasts, reading from an assigned text, handouts, or other teaching materials created by the instructor. You could also choose to curate online content (e.g. YouTube, Khan Academy). It is critical to include lesson objectives so that students are ready for class. Homework should be intimately linked to objectives and not overburden the student. Consider reducing in-class contact time to accommodate homework preparation time by the students. This is particularly important if multiple instructors are using a flipped classroom approach and students have several out-of-class assignments to complete. However, reduced contact time is offset by enhanced retention and learning level as whole class periods are dedicated to active learning.

## Developing the Activity

Flipped classroom sessions fail if students do not do preparative homework. Thus, an important consideration is how to hold students accountable to faculty, themselves and each other. A common and easily implemented method is the readiness assurance test (RAT). In the RAT, students answer a few questions that count towards their course grade. Alternatively, students could be asked to submit their muddiest point or to create a memory matrix as evidence of homework completion. The former could be used by the instructor during class for class discussion, while the latter could be used by the students during the completion of the activity. Peer evaluation is another method to hold students accountable since group learning depends on everyone being prepared. This can be used instead of or in addition to a RAT.

The activity itself could include a sequence of the embedded activities mentioned above, adaptation of a classroom assessment technique, or team-based learning. Real-world examples such as patient cases, laboratory data etc., which are sufficiently challenging, provide a context to what the students studied out of class. The common thread in these activities is that students, usually in groups, are given specific application tasks to accomplish and explain their reasoning to their peers and instructor. Regardless of the activity chosen, the activity should challenge students at higher levels of learning, align with the objectives, and, importantly, align with examinations. The activity must fit into allotted class time, including debriefing (see below), so it may be necessary to adjust the activity length after its first use.

## Running the Session

Group learning, i.e. sharing and explaining answers with others, creates deeper understanding. Thus, the flipped classroom associates students into small groups within the lecture hall. Small groups are formed spontaneously by convenience or through formal assignment. The latter is preferable since it promotes group accountability; student groups can be maintained for extended periods. Groups should be instructed to explore the logic behind their final answers and alternative responses. Emphasize that mistakes will happen and are part of the learning process. The instructor must carefully monitor the activity timing to reserve a sufficient interval for debriefing. We use a visual indicator (e.g. a placard) that the groups display when finished.

After completing the activity, students should explain their logic to the class to provide immediate respectful feedback. Questions can be answered by the instructor or posed to the groups. In closing the session, emphasize accomplished objectives and acknowledge the hard work of the students.

## **Evaluation**

Evaluation should include measurements of student learning, students' reactions to the session and faculty peer evaluation. Student learning often is measured with a summative examination. If there are historical performance statistics on an examination used in a class after flipping it, the outcome using the traditional approach can be compared to that in the flipped classes. Such comparisons are useful in assuring ourselves and the administration that the flipped classroom method is not detrimental to student success.

Student and faculty reactions to the session are useful in making adjustments for future sessions. Critique of the session by the faculty participants also is useful in making adjustments for future sessions. Immediately after the session, consider whether the pace was appropriate and if the activity was sufficiently challenging. Making adjustments immediately after the session assures that the activity is ready for the next year.

## 2- Team-Based Learning (TBL)

Team-Based Learning is a strategy that helps create a collaborative learning environment. This strategy requires students to take responsibility for their learning as well as work as a team.

### What is Team-Based Learning?

Team-based Learning is a structured collaborative learning strategy developed by Larry K. Michaelsen in the early 1970's. The instructional strategy as reported by L. Dee Fink, has been designed to “(a) support the development of high-performance learning teams and (b) provide opportunities for these teams to engage in significant learning tasks.”\*

Team-Based Learning is a practical approach to learning where students are placed into small learning teams of about 5-7 members. These teams are given activities designed to encourage them to apply their knowledge of a particular concept. This strategy encourages students to come prepared to class and apply their knowledge in class.

### Why Use Team-Based Learning?

- provides students with a practical outlet for understanding, synthesizing and applying their learning.
- It stimulates them to explore and improve their individual skills and abilities.
- It uses real world contexts and similar experiences to educate students.
- Students can engage in complex intellectual tasks that are challenging.

### Principles of Team-Based Learning

The strategy is founded on the following underlying principles:

- Student accountability is high, with students responsible for their own preparation and participation in the groups.
- The assignments or exercises used should facilitate and advance learning and teamwork within the classroom.
- Students should receive prompt and frequent feedback.

Thus engaging in Team-Based Learning helps students to reflect, review, analyze and enhance their learning while engaging in challenging tasks designed to expand their individual and team building skills.

# Implementing Team-Based Learning

## TBL recurring steps

### **Step 1 – Advance assignment.**

Out-of-class/individual. Students receive a list of learning activities, accompanied by a set of learning goals. Students study materials in preparation for the TBL session. Learning activities may include readings, videos, labs, tutorials, lectures, etc

### **Step 2 – Individual readiness assurance test. In-class/individual.**

Each individual student completes a set (10–20) of multiple-choice questions (MCQs) that focus on the concepts they need to master in order to be able to solve the Team Application (tAPP) problems.

### **Step 3 – Team readiness assurance test. In-class/team.**

This is the same set of questions that each student has answered individually! But, now the team must answer them through a consensus-building discussion. There must be a mechanism so that the team knows as immediately-as-possible whether or not they have selected the correct answers because they need this immediate feedback to help them improve their decision-making process.

### **Step 4 – Instructor clarification review. In-class/instructor.**

Students are given clarification from the instructor on the concepts they have been struggling with during the tRAT. At the end of the Clarification Review, students should feel confident that they are adequately prepared to solve more complex problems for the next TBL step: the Team Application.

### **Step 5 – tAPP – Team application. In-class/team.**

This is the most important step! Students, in teams, are presented with a scenario/vignette that is similar to the type of problem that they will be grappling with in their careers. They are challenged to make interpretations, calculations, predictions, analyses, synthesis of given information and make a specific choice from a range of options, post their choice when other teams post theirs, then explain or defend their choice to the class if asked to do so

### **Step 6 – Appeal. Out-of-class/team.**

A team may request that the instructor consider an alternative answer to the one designated as “best.” The team must either provide a clear and usable re-write of the question if they think it was poorly worded, or a rationale with references as to why their choice was as good as the “best” chosen by the instructor. Only a team that takes the steps to write an Appeal is eligible to receive credit for a particular question.

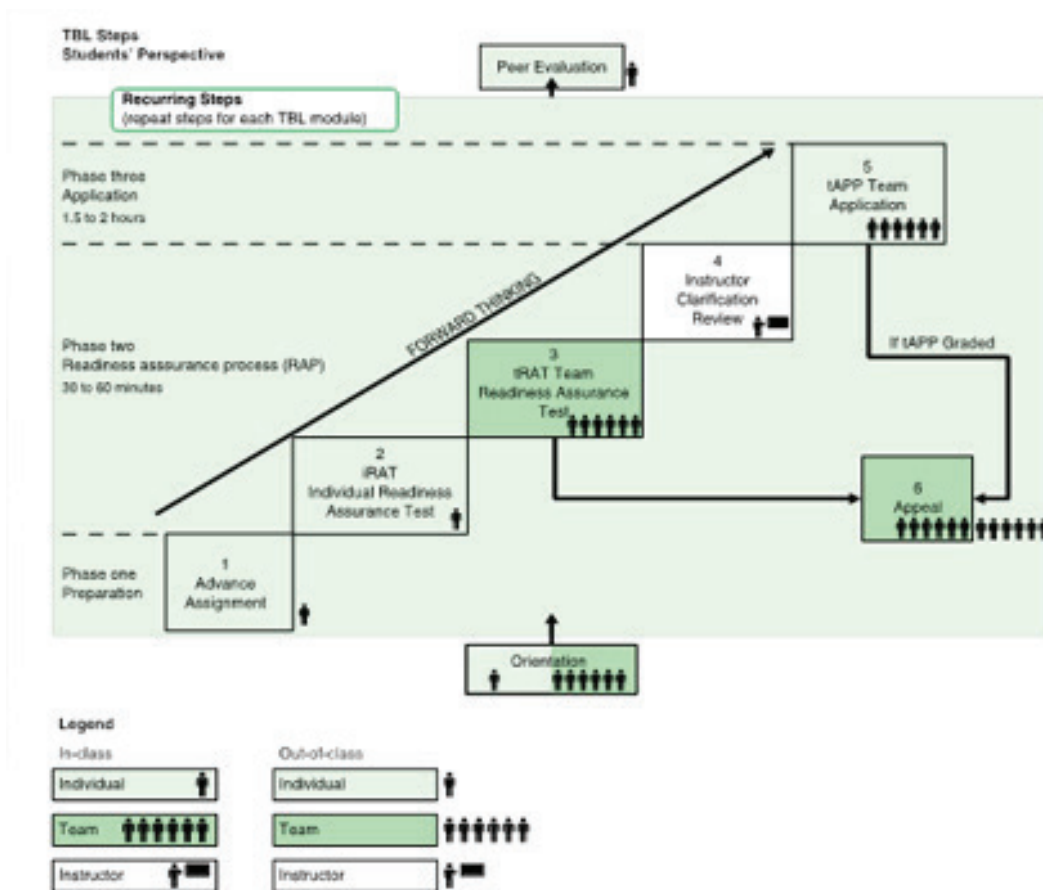
## TBL non-recurring steps Orientation.

### Out-of-class/in-class/individual/team.

Students read a brief article about TBL, out-of-class, in preparation for the orientation session, or the course syllabus as the first Advance Assignment. In-class, students take an individual readiness assurance test (iRAT) individually, followed by a tRAT in teams and then the tAPP that covers the essential principles of TBL. The instructor clarifies TBL concepts, including how TBL is different from students' previous learning group experiences. Peer evaluation.

### Out-of-class/individual.

Each student must evaluate each of his/her teammates on their contributions to the team's success and their own learning. It is best if there is both a quantitative and a qualitative component in which they get practice with framing constructive feedback to one another. It should be done anonymously, but team members are encouraged to speak directly to one another in providing feedback.





## Summary

TBL can be an exhilarating learner-centred instructional strategy for both the instructor and students, providing students with regular opportunities to learn how to collaborate with peers. For an individual module or a whole course using TBL to be successful, one must adhere to the steps and principles emphasized in this chapter. Based on our many years of experience with TBL, we are convinced that it is ideal for medical education because of its emphasis on accountability, decision making, critical appraisal, and collaboration with peers: all essential competencies for healthcare professionals.

### **Attendance and Presence in Virtual Classes and Distance Education**

For an effective presence among your students in virtual classes and distance education, pedagogical and educational studies recommend the following:

#### **1. Be always present through:**

- a. Responses to discussion forums.
- b. Emails and constructive feedback.
- c. Advertisements and messages through the e-learning management system.
- d. Virtual office hours.

#### **2. Create a dynamic and effective virtual community with students through:**

- a. Blogs / magazines.
- b. Discussion forums.
- c. Introductory and educational videos.
- d. Rapid response to students' questions and inquiries.

#### **3. Stimulate continuous feedback through:**

- a. Periodic tests.
- b. Giving constructive feedback to students on an ongoing basis.
- c. Taking feedback from the students themselves.
- d. Students' Assessment for themselves and their peers.

#### **4. Inform students of all expectations, the most important of which are:**

- a. The expected academic burden.
- b. The duties and assignments required of them.
- c. The means of communication available with their teachers.
- d. All the important times and dates of the course.

#### **5. Use a variety of methods to encourage interaction between:**

- a. Students and their teachers.
- b. Students with their peers.
- c. Students and the subject interactive content.

# Learning Strategies in E-learning

The faculty member should diversify using teaching strategies and methods to help engage students into the e-learning process, provided that these strategies achieve active student interaction with their professor, with each other, and with the content provided by the faculty member. Teaching and learning should be student-centered rather than teacher-centered.

## 1- The Lecture

An effective way to communicate information and knowledge to students, the lecture is one of the most widely used teaching methods. Most educators agree that the purpose of lectures is to lay the foundations when students are working through a topic. By knowing their students, faculty members develop their lectures according to their students' needs. Most importantly, lectures are more effective when used in combination with other educational strategies.

### **Practical guidelines for developing lectures in e-learning:**

1. Posting lecture notes and links to related resources and websites on a webpage or the LMS for students to review.
2. Presenting lectures via audio or video via the Internet. Online lectures should be shorter and more to the point than traditional classroom lectures, which often extend beyond students' attention scope.
3. Dividing the long presentation into shorter parts, if necessary, as short lectures provide enough information to serve as a basis for further reading, research, or other learning activities.

Perhaps one of the most important advantages of online lectures is that they are easily available for students to review when needed.

## 2- The Flipped Classroom

In order to simplify the concept of the flipped classroom, we must first mention the meaning of the regular, non-flipped classroom. Regular classroom is the class in which the teacher explains the lesson to the students and introduces through it the concepts and knowledge contained in the relevant lesson, and after or during the explanation, the teacher poses many questions to the students to make sure they understand what has been explained. Sometimes, the teacher prefers to give the students time to study before answering the questions.

In the flipped classroom, students usually receive the explanation through other means outside the classroom and before the lecture, whether the lecture is face-to-face or online.

Thus, students have a good opportunity to grasp the lesson before the lecture and without the explanation of the faculty member. When the lecture starts in the flipped classroom, the process goes in the opposite direction of the regular classroom so that the faculty member does not explain the lesson again, but rather students interact with one another and with the faculty member regarding what they have grasped from the resources prepared for them outside the classroom. The role of the faculty member here is to clarify what students may inquire about, which means that students are the ones who ask and the faculty member answers, explains, interprets and manages the discussion, and that is why it is called the flipped classroom as the roles are exchange between students and faculty members. The faculty member also prepares some interactive activities and works as a facilitator of the educational process, rather than a source of information.

### **3- Discussion**

Most adult learners prefer discussion as an education strategy because it is interactive and encourages participatory learning. Discussion also encourages learners to analyze alternative ways of thinking and finding solutions. This allows learners to explore their own experiences to become better critical thinkers, and therefore discussion is often at the heart of online courses.

The Internet provides several discussion modes including mailing lists, LMS discussion forums, and social media. These are asynchronous communications. Synchronous (real-time) communication includes web conferencing, chat rooms, or text-based virtual reality environments. Massive Open Online courses (MOOCs) illustrate the limits that can be reached in remote discussions.

### **4- Self-learning**

Self-directed learning is the learning initiated by the learner. The self-directed learning may also be called independent or individual learning. Whatever the term we use, self-directed learning places the responsibility for learning directly on the learner. In many ways, learning is eventually a self-directed process. Learners who take the initiative learn more and better than passive (interactive) learners. Proactive learners are the most effective and they tend to retain and make use of what they learned better and longer than interactive learners. The independent learner is more engaged, motivated, and active while learning.

Online learning supports the self-directed learner in pursuing individual and self-directed learning activities. The learner who works on a computer at a convenient time and speed is able to search and make use of vast online resources in almost any subject. Students can visit various libraries, museums, and institutes worldwide, speak to specialists, access recent research, and read scholarly journals that have been reviewed by fellow researchers online. Students can write collaboratively with their peers and post written and multimedia products online.

## 5- Guidance

The aim of guidance is to promote the learner's development by putting what the student already knows in a form. The guide acts as a mentor rather than as a knowledge provider and therefore serves to introduce students to the new world, explain it to them, and help them learn what they need to know to work in it. Mentors teach through interpreting the environment and modeling the expected behaviors, and they also support their students and provide insight to them.

A major advantage of online guidance is that it allows frequent and comfortable communication between the guide and the student. Weekly or even daily information and messages can be exchanged between the faculty member and the student via e-mail or various social media, which provides an ongoing 'dialogue' that supports the development of the faculty-student relationship and provides many opportunities for timely comments on students' questions, concerns, and issues.

## 6- Teamwork in small groups

In small groups, learners discuss content, share ideas, and solve problems. They present and consider ideas that others have come up with. In this way, they see a variety of perspectives on a certain topic. There are many small group strategies that encourage and provide opportunities for interaction, such as the following:

### Discussion group

Learners are allowed to reflect on a topic under discussion and provide their opinions. Small group discussions may vary on the intellectual level from low to very high levels.

### Directed-Design

The focus in directed-design is on developing learners' decision-making skills and on teaching specific concepts and principles. Participants work on open-ended problems that require work outside the classroom to gather information. This strategy encourages learners to think logically, communicate ideas, and apply steps in the decision-making process. Learners should apply what they have learned, exchange ideas and think of solutions. The teacher's role is to act as a counselor or facilitator for groups.

### Role Play

Role-playing strategy is implemented by creating a situation related to a real-world problem in which participants take on different roles. This enhances understanding of the attitudes and positions of others. In addition, there are also helpful procedures for diagnosing and solving problems. Role-playing can be used to simulate real-world group work situations and it can help learners understand a problem or situation.

## **Games**

Two or more groups compete to achieve one set of objectives. The game follows the rules and procedures, as the faculty member provides information that requires decision-making. Most education games reflect typical real-world situations. The rules, procedures, and objectives of the game should be clear and concise.

Online learning environments provide many distinct benefits of small group work. They allow small groups to work independently with continued access to a faculty member. In some cases small groups can be coordinated to meet synchronously online when all class members cannot. Larger groups can communicate asynchronously via conference programs. The second benefit of online group work environments is that a faculty member can respond directly to questions and needs of specific groups without wasting other groups' time.

## **Projects**

Online projects give students opportunities to pursue special interests, either individually or in groups. Projects also provide students with practical experience and a sense of achievement. Using projects in a learning activity engages students with the learning process. Project outcomes can be shared with others in the classroom, evaluated and criticized by other groups or by the facilitator. By sharing individual projects with other participants, the learner gets diverse perspectives and comments.

Many of the education strategies presented earlier and shall be presented later can be considered as group projects for small groups. Group projects can include simulations, role-plays, case studies, problem-solving exercises, group work, discussions, small group discussion, and brainstorming. As the case with individual projects, group projects should receive peer comments to receive varied perspectives. Through individual and group projects, learners pursue special interests, and publish or present their findings and conclusions online. The Internet provides the possibility to receive comments from experts or interested peers outside the course by accessing the project online.

## **7- Cooperative learning**

Cooperative learning is the process of having two or more students work together to learn by forming small groups of participants with different abilities while using a variety of learning activities to master the subject developed beforehand by the faculty member, or to build knowledge on objective issues. Each team member is responsible for learning what is being taught and helping colleagues to learn.

Cooperative learning methods are used in almost two-thirds of higher education courses, according to a recent survey conducted by the University of California's Institute of Higher Education Research. Employers seek workers with cooperative skills and look for grad-

uates of educational programs that teach these skills. Cooperative learning can be more effective than personal and individual competitive efforts in promoting cognitive development, self-esteem, and positive student-student relationships.

## **8- Case study**

Participatory and containing work components associated with future experiences, the case study requires learners to make use of their experiences. The key to a successful case study is choosing an appropriate situation for a problem that is closely related to learners' interests, level of experience, and the concepts taught. The case report should include facts of the problem, environmental context, and those interested in the case. The case study should be realistic and must contain opinions and perspectives of interested people. Learners should be able to find a solution to the problem, not just mentioning their own conclusions. Later, they may compare their findings with the actual decision made to solve the problem.

In the context of the case study, learners can work independently or in groups. An advantage of using the case study method is that it emphasizes practical thinking and helps learners define principles after examining the facts of the case, and then apply those principles to new situations. Case analysis is equally effective when used in combination with other educational strategies.

In online or LMS environments, case studies are presented and discussed on web pages and discussion forums. Developed by class groups as collaborative projects, case studies can benefit from the tremendous online resources to contribute to data, information and seeking expert advice to case development and analysis.

## **9- Forum**

A forum is an open discussion between one experienced person or more on one hand and a group on the other. The moderator directs the discussion, responds to the audience, discusses issues, provides comments and information, or poses questions to the experienced person and so on. The forum is always of two types: the expert team and the symposium.

### **A- The expert team**

Usually it comprises three to six people who sit in front of an audience and have a meaningful conversation about a topic in which they have specialized knowledge. While the forum is run by the mediator, the committee is informal in nature but public participation is not allowed.

## **B- The seminar**

The seminar is a series of presentations by two to five people on different aspects of the same topic or closely related topics. Although the seminar is formal in nature, questions from the audience are encouraged after the presentations. One of the advantages of the seminar is that it allows learners to identify a variety of expert perspectives and provides an opportunity for the public to ask questions.

Since the online environment facilitates group communication, it is ideal for exchanging information, so an online forum can be more convenient and effective than a traditional classroom. Speakers, experts and moderators can participate without the need to travel or even be present at a certain time as both synchronous and asynchronous communication can support online learning forums.

## **10- Learning contracts**

Learning contracts link educational needs to student's individual needs. This is a useful bridge when there is a diversity of a learner's needs and interests. A learning contract is an agreement, written by the learner, detailing what will be learned, how the learning will be accomplished on what time span, and the specific Assessment criteria that will be used to determine that the learning process is completed. Learning contracts help the faculty member and the learner to share the responsibility for learning.

Learning contract can have many practical benefits including a deeper learner participation in learning activities, which were planned by the students themselves. Once the learner goes through the stage of confusion and anxiety associated with developing a learning contract, the student will be motivated to implement his/her own plans. Another benefit of using the learning contract is the issue of increased accountability, as the learning contract provides more functional evidence and validation of learning outcomes. The contract also provides a means for the learner to receive continuous feedback on the progress to achieve the learning objectives.

Learning contracts can be very effective in an online environment since the online context does not allow meeting face-to-face to discuss learning objectives, goals, and expectations. Faculty members should be very clear and concise in what they expect of the learner, and likewise, learners should also be clear in terms of what they expect from a faculty member. The learning contract is a document of negotiated learning objectives and outcomes.



### Some exemplary practices for learning contracts

1. Providing learning contract examples on the LMS for the student to use.
2. Encouraging students to exchange ideas on learning contracts with their peers via the Internet.
3. Motivating students to negotiate the final contract with the teacher through e-mail or online meetings.

The following table is a list of the most important different teaching strategies in e-learning and the level of students' integration in the educational process:

	Teaching Strategy	Level of Student Integration
1	Traditional lecture	Low
2	Forum / Seminar / Expert Team	Low
3	Interactive Lecture / Videos	Medium
4	Discussion	Medium
5	Case Study	Medium
6	Collective Projects	Medium
7	(Blended Learning (face-to-face/distance	Medium to High
8	Critical Thinking Strategies	Medium to High
9	Simulation, Role-playing and Games	Medium to High
10	Guidance	Medium to High
11	Peer Education	High

Table (1) – Different teaching strategies and the level of student integration

## Principles of the effective application of e-learning strategies

In order for the e-learning strategies in the LMS to be effective when applied by a faculty member, the following general principles should be considered:

- The tools and means of e-learning systems are compatible, and they are selected in to suit the e-learning strategies, rather than revolving around them.
- Designing the e-course, units and contents in a way that allows it to circulate and to be used synchronously and asynchronously within the LMS.
- There is a strong correlation between the adopted e-learning strategy, the method of designing the e-course structure, and the procedures for employing its media and content.
- The smart and efficient employment of high-quality multimedia presentation tools, which are a major and essential part of e-learning.
- The necessity to change the adopted e-learning strategy according to developments so that it may not be the same in all educational situations, in form and content.

### Conclusion:

The online learning environment allows faculty and students to work and exchange ideas and information together on projects, around the clock and from anywhere in the world, using multiple communication modes. Given the advantages and resources of this rich learning environment, can multiple learning strategies be used for a better online learning? Just like the case with traditional classroom, educational strategies are more effective when used to achieve specific educational goals and objectives. Effective course design can begin with asking and answering the main question: What are the main learning goals and objectives for this course? Once these goals and objectives are identified, the faculty member proceeds to address questions on the learning strategies, activities, and experiences that should be employed.

Online learning can employ many of the strategies discussed here. A large part of the power of online learning lies in its ability to support multiple communication styles: **student-content, student-student, and student-faculty** whether this is an individual or group communication, taking into account learners' varied learning modes and providing opportunities for self-directed and collaborative learning. Educators can also facilitate powerful and effective courses aimed at achieving specific educational goals and outcomes using the vast resources and capabilities of online learning

# Peer Review Teaching Evaluation Checklist

Instructor Observed: \_\_\_\_\_ Course: \_\_\_\_\_

Peer Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

Consider each teaching element below and evaluate the teaching skills of the instructor by placing a check mark under the term best describing your evaluation of the instructor's actions. Add comments to illustrate your evaluation. Provide at least a summary evaluation in each category, and evaluations and comments on individual points where you feel you have observed enough to make them.

Items	Needs Improvement	Effective	Highly Effective	Not Applicable	Comments
<u>Class Organization</u> The instructor:					
1. Started class on time.					
2. Introduced lesson (overview or focusing activity)					
3. Paced topics appropriately.					
4. Sequenced topics logically.					
5. Related lesson to previous or future lessons or assignments.					
6. Summarized or reviewed major lesson points.					
7. Ended class on time.					
<u>Presentation</u> The instructor:					
8. Presented or explained content clearly.					
9. Used good examples to clarify points.					
10. Varied explanations to respond to student questions or needs for clarification.					
11. Emphasized important points.					
12. Used graphics or visual aids or other enhancements to support presentation					
13. Used appropriate voice volume and inflection					
14. Presented information or led discussions with enthusiasm and interest.					
15. Responded appropriately to student behaviors indicating boredom or confusion.					

Class Interactions The instructor:	Needs Improvement	Effective	Highly Effective	Not Applicable	Comments
16. Encouraged student questions.					
17. Asked questions to monitor student understanding.					
18. Waited sufficient time for students to answer questions.					
19. Provided opportunities for students to interact together to discover/discuss or practice content points.					
<u>Mastery of Content</u> The instructor:					
20. Presented content at an appropriate level for the students.					
21. Presented material relevant to the purpose of the course.					
22. Demonstrated command of the subject matter.					
<u>Instructor Attitudes</u> The instructor:					
23. Showed enthusiasm for the content.					
24. Showed respect for student questions and answers.					
<u>Course Documents</u> The instructor:					
25. Posted office hours, was accessible					
26. Provided an appropriate course specification (according to NCAAA requirements).					
27. Gave appropriate examinations and assignments.					
28. Distributed other necessary information.					
29. Developed or maintained appropriate Web-based materials , uploaded on Black-Board					
30. Used e-mail and/or discussion board to interact with students through BlackBoard					
Summary					

## Glossary

**Active learning methods:** Learning methods that focus on ensure learners play and active role in the process of learning instead of passively receiving information.

**Communication Skills:** Proficiency in the interchange of information. These are essential skills for clinical practitioners because of the large and varied number of people they must communicate with every day.

**Curriculum:** An educational plan that spells out which goals and objectives should be achieved, which topics should be covered and which methods are to be used for learning, teaching and evaluation.

**Integrated Teaching:** A method of teaching that interrelates or unifies subjects frequently taught in separate academic courses or departments. In integrated teaching, subjects are presented together as a meaningful whole.

**NCAAA:** National Commission for Academic Accreditation and Assessment.

**PBL:** Problem based learning.

**Best Evidence Medical Education (BEME):** Methods and approaches used by teachers of medical education based on the best available evidence as opposed to opinion-based education. BEME should take into account these factors: how reliable the evidence is as well as its utility, extent, strength, validity and relevance. It calls for critical appraisal of available literature and existing databases and identifying any existing gaps.

**Feedback:** Responses provided to an individual while completing a task that are intended to guide the individual to s desired end.

**Group work learning:** activities requiring several students to work together.

**Interactive methods in education,** these are methods that have learners communicate with others or interact with some form of technology to receive feedback upon completing a task.

**Learner-Centered Education:** A method of teaching in which the students' needs have priority. Learners are responsible for identifying knowledge gaps, actively participating in filling them, and keeping track of their learning gains. Teachers are expected to facilitate this process instead of supplying «spoon-fed» information. This approach increases the students' motivation to learn and prepares them for self-learning and continuous education. Learner-centered education is the opposite of teacher-centered education .

**Lecture:** An instruction or verbal discourse by a speaker before a large group of students. This teaching method has historically been quite prominent in education because it is an economic way to communicate information to large groups. However, increasing knowledge about the group's difficulties in maintaining concentration and absorbing extensive information while in a passive listening mode has brought the value of lectures under criticism. Audiovisual presentations, demonstration of patients and intermittent discussions can help activate learners.

**Self-Directed Learning:** A form of education that involves the individual learner's initiative to identify and act on his or her learning needs (with or without assistance), taking increased responsibility for his or her own learning.

**Skill:** The ability to perform a task well, usually gained by training or experience; a systematic and coordinated pattern of mental and/or physical activity.

**Small Group Teaching:** A very popular form of instruction since it permits the working through of learning material, not just in terms of knowledge but also in terms of attitudes. Within a small group, participants are more likely to exchange opinions and feelings. Usually such sessions are structured with the help of specific exercises such as patient interviews or discussion topics.

**Tutorial:** is an interactive method of transferring knowledge and may be used as a part of a learning process. A tutorial seeks to teach by example and supply the information to complete a certain task.

**Seminar:** is a form of academic instruction. It has the function of bringing together small groups for recurring meetings, focusing each time on some particular subject. It is essentially a place where assigned readings are discussed, questions can be raised and debates can be conducted

**Brainstorming:** is a group creativity technique by which efforts are made to find a conclusion for a specific problem by gathering a list of ideas spontaneously contributed by its members.

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# Teaching & Learning Strategies in KAU

## Guidelines and Tips for Faculty Members

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