الجامعة الليبية الدولية للعلوم الطبية
Libyan International Medical University

كلية الصيدلة
Faculty of Pharmacy

Interactive Learning Strategies at Faculty of Pharmacy

Academic Year
2022-2023

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Introduction

Interactive learning strategies are students-centred learning methods that used to increase the effectiveness of education and motivate students to learn. Also, these strategies help students to be life-long learners, team-workers, leaders, and other skills.

Faculty of Pharmacy at Libyan International Medical University, adopts different interactive learning strategies including:

- ✓ Problem-based learning,
- ✓ Team-based learning,
- ✓ Research-based learning,
- ✓ Case-based learning,
- ✓ Tutorials,
- ✓ Group-based flipped classroom,
- ✓ Presentations,
- ✓ Debates

Problem-Based Learning

Definitions

Problem Based Learning (PBL)

Learning strategy which puts a problem first, and in which further learning is conducted in the context of the problem.

Learning Objectives

Statements describing what a student is expected to learn from the lesson. The learning objective provides a detailed description of what the student will be able to do when the instruction ends. A teacher uses a learning directive to help students understand how to make practical use of information learned during the lesson.

Learning Outcomes

Statements that describe significant and essential learning that learners have achieved and can reliably demonstrate at the end of a course or program. In other words, learning outcomes identify what the learner will know and be able to do by the end of a course or program.

Self-directed learning skills

Instructional strategy where the students, with guidance from the teacher, decide what and how they will learn? It can be done individually or with team learning, but the overall concept is that students take ownership of their learning.

Life-long learners

(Life-long Education) is the provision or use of both formal and informal learning opportunities throughout people's lives in order to foster the continuous development and improvement of the knowledge and skills needed for employment and personal fulfilment.

Team Dynamics

The interactions that influence the attitudes and behavior of people when they are teamed with others through either choice or accidental circumstances.

Tutor (Facilitator)

A tutor is a staff assistance who facilitates the team discussion and learning rather than leading it. Also, team the tutor assists them to plan how to achieve the learning objectives form the problem. However, the tutor remains "neutral" and does not take a particular position in the discussion.

Introduction about Problem Based Learning and the theory behind it

Traditional versus Problem-Based Learning

As PBL is a modern strategy of learning, its process depends on the fact that discovering the information is more effective than receiving it from a lecturer. Traditional approaches to learning often follow a linear process where the instructor dictates what is to be done: Information and details are presented first which the students then use to solve a problem. In problem-based learning, the problem is presented first after which students work in small teams to solve the problem, so the student can identify the learning objectives by himself through the problem which has been designed by subject experts in a way that the flow of the information is logical and understandable.

Once the student has identified the nature of the problems or issues, he will draw up an agreed set of learning outcomes for the PBL and use the next few days to research, using different resources to get the information which will help him to meet those outcomes before the PBL team reconvenes. At the next PBL meeting the student will have an opportunity to discuss the interim findings of his research with his colleagues and clarify any areas of further research.

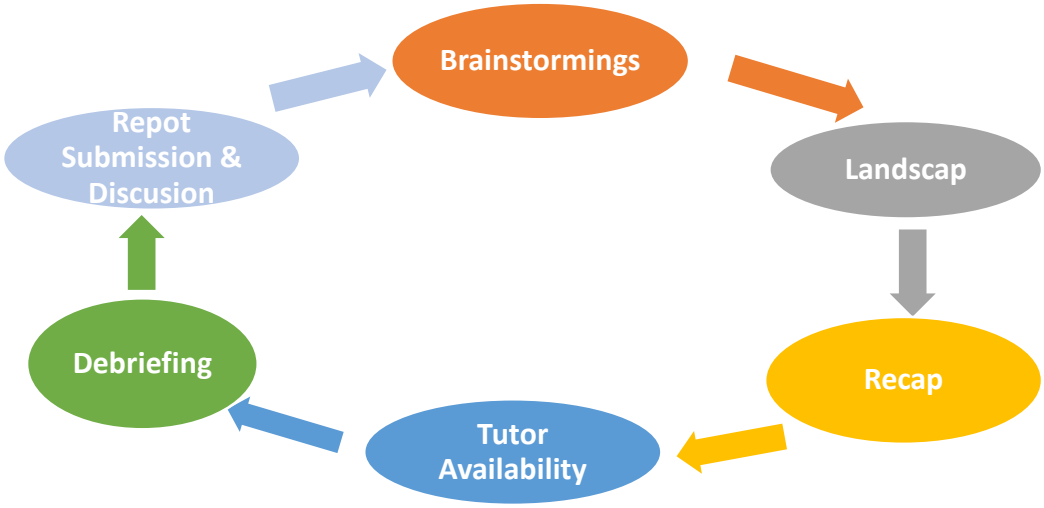
The effectiveness of the PBL session depends upon all the members and thus attendance at PBL sessions is compulsory. The process is done by composing student teams of 8 to 12 with the guidance of tutor. The students' attendance will be monitoring, and disciplinary action is likely to be taken if you fail to attend a certain number of PBL sessions, as shown in faculty regulations.

Benefits of PBL

- Promoting deeper rather than superficial learning.
- Improving retention and recall of information.
- Increasing motivation for and enjoyment of learning by providing an active, stimulating and sociable learning environment.
- Fostering self-directed learning skills which are likely to lead to graduates becoming life-long learners.

- Helping students develop interpersonal and teamwork skills essential for the work after graduation.

PBL Session Cycle



1. Brainstorming Session

During this session the students will meet and sit down in a U shape to:

- Tutor will choose the leader and the scribe for this session.
- The leader distributes the problem to the students.
- Students asked to read silently the problem.
- Students read loudly the problem equally.
- Students clarify terms and concepts not readily comprehensible.
- Summarize the problem by two students.
- Define the problem after agreement of all students.
- Analyse the problem and identify the point of focus (Main Idea).
- Draw a spider shape about the essential concepts of the problem.
- Formulate learning objectives.
- Evaluate the session verbally including their performance, their partners, and the tutor.
- Tutor evaluates students' performance orally and written by specific form.

2. Research or Personal Study

Students collect scientific information individually to cover the learning objectives team they have to use scientific references which can be a textbook, scientific journal, website, etc.

3. Recap or Feedback session

At this next PBL meeting, students will have an opportunity to discuss the interim findings of the research and clarify any areas of further research. This is known as the ‘recap or feedback’.

4. Tutor Availability

Tutor will be available for student at certain office hours to guide the confused student Who couldn’t find any information about a certain objective.

5. Debriefing

Debriefing is a term used in experiential education to describe a question-and-answer and discussion session with participants. These talking sessions are generally thought to be a ‘sit down’ circle where the tutor asks questions, and the participants answer or describe the information by using different learning tools as a media, board, oral or poster presentation.

6. Report

After debriefing session, students will have all the information that need to know and should have written them in an academic way of writing that will be explained in Report Writing Guide. The report should be discussed with the tutor or the subject expert to evaluate it and to evaluate your ability to explain what you collected and wrote.

7. Evaluation

At end of any session, Tutor & students evaluate and assess themselves, other students tutor, and team performance. Opportunities for improvement should be identified and suggestions for improvement should be provided. The PBL tutor assesses students regularly in the form of grades and detailed reports about them.

PBL Session Main Components

1. **The problem**

The problem is a scenario or case which promotes the PBL process, discussion, and learning by:

- Engaging student interest.
- Embedding student learning in a realistic setting.
- Triggering existing knowledge and understanding which enables students to build upon what they already know.

2. **The Tutor**

The role of the PBL tutor is to facilitate team discussion, create a healthy environment that allows all members to contribute to discussion, provide feedback and monitor the team's progress. The PBL tutor is not there to provide easy answers and it will be of no benefit to the team to try to obtain the week's learning outcomes from him/her -. For PBL to be effective, students need to come up with the outcomes themselves and bypassing this part of the process will only be detrimental to your learning.

PBL tutor will encourage students to explore the breadth and depth of a subject, thereby assisting in the learning process. Thus, instead of providing the information, the PBL tutor may guide students towards recognising it.

What to expect from a Problem Based Learning Tutor

- Team acts as a role model.
- Promotes students' interaction within the PBL team.
- Guides learning within the PBL team.
- Motivates the students to learn.

- Monitors the progress of each student throughout the PBL sessions.
- Monitors attendance.
- Provides feedback to the chief tutor, team, and the curriculum development committee through the chief tutor.
- Helps students to identify relevant learning resources
- Provides academic and non-academic support to students.

What students can do to help the tutor during sessions?

- Remember that they are part of the team and include them in academic discussion.
- PBL students would have experience of team dynamics and the pressures of working within it. They would have developed a model of working with members with varying attributes.
- Show appreciation when they are offered constructive and helpful advice.
- Be specific about the assistance you need – don't ask for answers, ask for contributions to the discussion.
- Be positive and creative and willing to contribute.
- Abide by the faculty of pharmacy code of conduct that regulates the PBL sessions.

3. The PBL Team

Teams usually consist of 8 to 12 students. Each member of the team maintains a particular role throughout the PBL session. The three roles are:

1. The Leader

At each PBL session one of the students will be the leader who will be responsible for leading the discussion and controlling the PBL session. It is important that everyone has a chance to be a leader and experience the challenge of leading a team. Accordingly, the leadership should be rotated between team members.

Roles of Leader

- Distributes the problem to the team member.
- Invites and encourages team members students participate and ensures that everyone is contributing equally and that no one is too quiet or too dominant.
- Asks for summarises.
- Oversees and time manage of PBL session and moves discussion when necessary.

- Ensure team members stick to the task on hand according to the right sequence.
- Contributes in the discussion as a team member.

Tips for Successful Leadership

- Try to find a balance between keeping people focused on the task. This can be a challenge but produces the most enjoyable and productive working environment.
- Set an example: If you believe it is important that the Firm members say what they want to say, take the first step and say what you think and feel. This can stimulate others to say what they think and express their feelings as well as their thoughts.

2. The Scribe

The function of the scribe is to write in an account of the team discussion on the board) and to order ideas and problems as they are raised. The scribe needs to capture the interlinking ideas which have been discussed a using of 'spider diagram'. The scribe role should be rotated between team members.

Roles of the Scribe

- Listens carefully.
- Notes down ideas and concepts after team members agreements.
- Organises the notes by categorizing concepts.
- Checks the accuracy of the notes with other team members.
- Continues to contribute to the team discussion as a team member.
- Writes the learning outcomes the team has decided on the board.

Tips for a Scribe

- Don't try to write down everything. This will slow the session down too much. Try to develop a succinct way of making clear notes on what has been said.
- Do not be afraid to tell the team to slow down.

3. Team member

Although the roles of PBL tutor, the leader and scribe are important in the context of running a PBL session, each individual firm member must recognise their equal responsibility to contribute as fully as they can. PBL works

exceedingly well if all firm members are committed to the task and the process. Problems can occur, however, if some students are disengaged or not contributing properly. Being a member of a firm can be a rewarding but sometimes difficult role. It is important to try to develop the habit of regularly reflecting upon your own contribution to the firm. No matter how hard you prepare yourself academically for the PBL sessions, the work you do will only pay off fully if you and the rest of the students are functioning as a unit.

Different students have different learning capacities, strengths and weaknesses. An important challenge is to identify your own learning needs and experiment with the techniques and time that will enable you to address them.

Key Points for Team Members

- The success of each meeting is the responsibility of all team members.
- All team members must respect the roles of the scribe and the leader and assist them in their roles.
- Try to keep a balance between dominating the discussion and sitting on the side-lines saying nothing. Neither of these positions will help you or the team.
- Students should not be hesitated to contribute ideas, especially during the brainstorming session.
- All team members should accept the feedback.

Tips for Self-Directed Learners

- Be patient with the adaptation process that it may take you some time to settle in fully to teamwork and self-directed learning.
- Do not be afraid to try new learning techniques.
- Try to develop consistent and disciplined timetable for your study, it will help you on the long run and make the weekly work more enjoyable.

The Six Steps of PBL session

1. **Clarify**

   It should take very little time. It is simply a matter of making sure that every student understands all the words that are used in the written case.

2. **Define**

   Define what the problem is about. There is usually a very strong clue in the problem scenario.

3. **Analyze**

   This takes most of the time and cannot usually be done in less than an hour. the problem should be discussed by all of members of the team. Work out what you already know about the various components of the problem and try to link concepts together. Most teams find this easiest to do with a "Mind-Map" or "Concept Map". Students should challenge themselves r to explain how things work and why they think what they think. It is essential that you do not just say “We did that in the last module”. They only can actively use their prior knowledge by articulating it. In other words, they shouldn’t say that they know, instead they should state what they know. Don't be afraid to say something "naïve" or "doesn’t make sense", this is a safe environment in which they can learn from each other.

4. **Sift & Sort**

After an hour or so, they should have sufficient relevant information on the board. Then, they should work out which concepts are linked, and which they as a team feel they need to focus on.

5. **Identify Learning objectives**

   Make sure that you take note about the team objectives which posted on the whiteboard at the end of brainstorming session.

6. **Go and learn**

   Everyone in the team should research all the learning objectives individually, use all of the resources and try to understand what they are reading. At first, they may find it difficult to work out how deep they need to go team.

Professional Behaviour in PBL meetings

1. **Respect**
   2. Listens, and indicates so with appropriate verbal or nonverbal behavior.
   3. Verbal and nonverbal behaviours are neither rude, arrogant nor patronizing.
   4. Does not humiliate or denigrate group team members for their opinions or information.
   5. Differentiates the value of information from value of person.
   6. Acknowledges group team members' contributions.
   7. Does not interrupt inappropriately.
   8. Participates in discussion of differences in moral values.
   9. Apologizes when late or gives reason for being so.

2. **Responsibilities**
   1. Is punctual.
   2. Completes assigned tasks.
   3. Presents relevant information.
   4. Identifies irrelevant or excessive information.
   5. Takes initiative or otherwise helps to maintain team dynamics.
   6. Takes initiative or otherwise helps to define team goals.

7. Advances discussions by responding to or expanding on relevant issues.
8. Identifies own emotional or physical state when relevant to own functioning or team dynamics.
9. Accept priority of tutorial time over other activities.
10. Identifies lack of honesty in self or others that interferes with team dynamics or attainment of team goals
1. 11. Describes strengths and weaknesses of team members in a supportive manner.
11. Gives prior notice of intended absence.

3. Self-Awareness/ Self-Evaluation

1. Acknowledges own difficulty in understanding.
2. Acknowledges own lack of appropriate knowledge.
3. Acknowledges own discomfort in discussing or dealing with a particular issue.
4. Identifies own strengths.
5. Identifies own weaknesses and how to improve.
6. Responds to fair negative evaluative comments without becoming defensive or blaming.
7. Responds to fair negative evaluative comments with reasonable proposals for behavioural change.

4. Communication Skills

1. Speaks directly to team members.
2. Uses words that team members understand.
3. Presents clearly.
4. Uses open-ended questions appropriately.
5. Uses non-judgmental questions.
6. Identifies misunderstanding between self and others or among other team. members.
7. Attempts to resolve misunderstanding.
8. Able to express own emotional state in appropriate situations.
1. Non-verbal behaviours are consistent with tone and content of verbal communication.
9. Verbal or non-verbal behaviours indicates that statements have been understood.
10. Recognizes and responds to team members' non-verbal communication.

Team-Based Learning

1. TBL Definition

Team-Based Learning (TBL) is an instructional strategy that supports active learning by testing and assigning students to teams to apply content to simple and complex problems with feedback from the content expert.

2. TBL Objectives

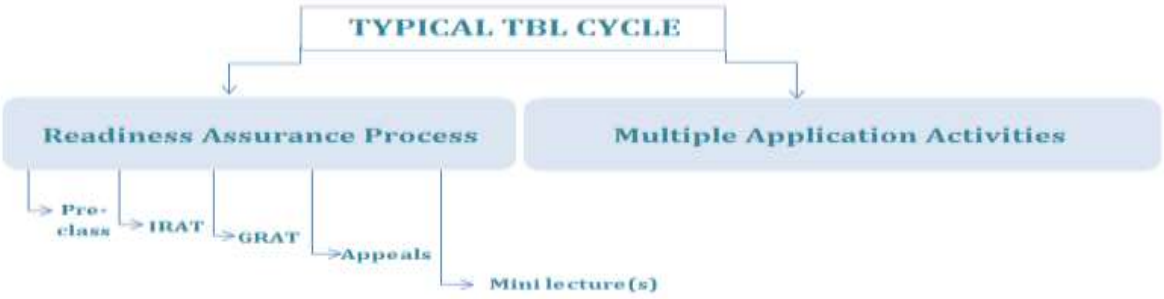
1. Ensure that students can practice using course concepts to solve problems.
2. Provide students with both conceptual & procedural knowledge.
3. Encourage team performance, behavior & skills.

3. TBL Essentials

Teams	→	Formed in advance
Accountability	→	For individual & group work
Feedback	→	Peer evaluation
Assignment design	→	Promote learning & team development

4. Readiness Assurance Process

Assurance process is the backbone of TBL and the five major components of RAP are: 1) assigne Reading before class (pre-class), (2) individual Tests (iRAT), 3) Team Tests (tRAT), 4) appeals proces and 5) Mini-lecture(s) clarification, according to the typical TBL cycle illustrated in the figure.



4.1 Pre-Class Preparation

Students are assigned preparatory materials to review before the start of each TBL session. The preparatory materials can be textbook chapters, articles, videos, or PowerPoint slides. The preparatory materials should highlight foundational vocabulary and the most important concepts the students need to begin problem solving.

4.2 Individual Readiness Assurance Test (iRAT)

At the beginning of TBL session, students have to answer a test individually (iRAT). The iRAT holds students accountable for acquiring important foundational knowledge from the preparatory materials. The iRAT consists of 10 multiple choices questions that will be answered in 15 min.

4.3 Team Readiness Assurance Test (tRAT)

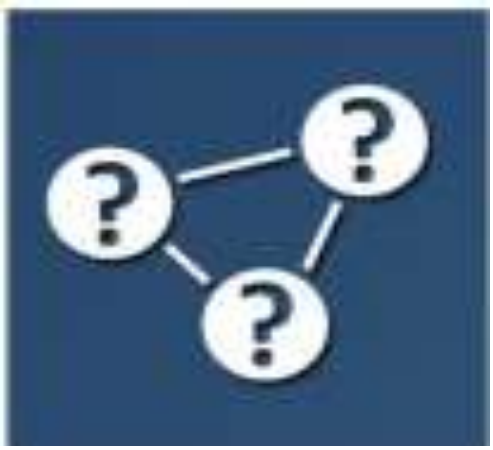
The team readiness assurance test (tRAT) is the exact same test as the iRAT with 15 min in duration. The teams must negotiate which answer to choose, then they announce their answers according to class regulation. The tRAT are high interactive learning events.

4.4 ppeals

Toward the end of the team test, if a team has any doubt in th reading material, an appeal must be written after agreement with all the team members. The appeal must consist of (a) a cle statement of argument, and (b) evidence cited from th preparatory materials. The instructor collects these forms an considers them after class.

4.5 Mini-lecture(s) Clarification

Mini-lecture(s) clarification or instructors/students' discussion session is a 1 -2 hr session. The instructor(s) clarify all difficulties that students had with the preparatory materials.



5. Multiple Application Activities

1) It is a 2hr session.
2) Giving students an extensive list of the key concepts from th problem.
3) Asking them to individually identify any concepts that the don't recognize.
4) Then students work in teams to answer the case.
5) The instructor compares the answers presented by each tea and reviews any concepts that teams identify as difficult.

6. TBL Ground Rules

1. Arrive on time and stay with your team during the exercise.
2. Come prepared.
3. Be an active listener and encourage the expression of ideas / opinions of your teammates.
4. Participate; share your knowledge with confidence and clarity.
5. Ask useful questions and provide relevant information; stay on topic.
6. Respect others and their point of view. Do not try to dominate the group.
7. Give and take constructive criticism and comments with objectivity, accuracy, and respect.
8. Focus on learning and application of knowledge and not on simply finding the "right answer".
9. Do your best and not "just good enough".
10. Earn the trust of your teammates by being reliable and straight forward; your team's performance will be significantly more than that of any one individual as trust develops between teammates.
11. Demonstrate flexibility and remain composed when disagreements occur.
12. Accept some level of silence, awkwardness, or impatience as your team learns to work together.
13. Be willing to admit it when you don't know an answer and allow others the chance to teach you.
14. Texting or e-mailing during the exercise is not acceptable.

Reference: ***The university of Tennessee health science***
(https://uthsc.edu/tlc/tbl.php)

Research-Based Learning

Writing a Mini-review Guide

A mini review provides a concise, focused review of the literature related to a question of current interest. It is short and usually relatively easy to read. Writing a mini review is a good way to organize your thoughts and summarize the knowledge you have obtained about a particular topic that you have acquired from reading the literature.

Structure of the mini review:

- **Word range:** 1500- 2500 (not including the title, authors, abstract, keywords, tables and references)

- **Title:** should be:
  - Attractive
  - Informative
  - Specific
  - Not too long/ too short

- **Authors:**
  - The authors' names and institutional affiliation should be **Double-spaced** from the title and **centered below the title**

- **Abstract:**
  - Word range 100-250.
  - Non-structured abstract.
  - Do not use abbreviations.
  - Do not cite references.
  - This should be a summary of the review including the purpose of conducting the review and the main findings.

- **Keywords:**
  - Use 3-8 keywords representing the main content of the article.

- **Body of the Mini-review:**
  - Stick to the principles of academic writing.
  - **Introduction:**
    - A single introductory paragraph provides necessary background/context for the reader. Should indicate or hint at why the chosen topic is important.
  - **Body:**

        - Divide up the mini-review into 3-5 topics/sections, each with its own subheading (in bold).
        - Each subheading should be followed by 1-3 paragraphs.
        - Ideally each paragraph should have a topic sentence and should be written clearly but concisely.
    - **Conclusion:**
        - One well-developed paragraph.
        - Should be concise and to the point.
        - Should clearly state the main conclusions and include an explanation of their relevance or importance to the field.
- **Figures/tables:** (up to 2)
- **References:**
    - Referencing style:
        - Use Vancouver referencing system (numerical system)
    - References number:
        - 10 to 40 references.
    - Use major references.
    - Use more recent references (~85% of references should be ≤ 5 years medical topics and ≤ 8 years for non-medical).
    - Types of references that can be used:
        - Original Articles.
        - Review Articles: Good starting point.
        - Conference Proceedings.
        - Government and Corporate Reports.
        - Thesis and Dissertations: Limited Use.
        - Textbooks: can be a good starting point.

Case-Based Learning

1. Definition of CBL

Case-Based Discussion (CBL) is one of several exercises used to help the teaching and assessment of clinical skills, and its purpose is to provide structured teaching and feedback in a particular area of clinical practice. CBL is designed to assess clinical judgment, decision making and the application of medical knowledge. CBLs are used throughout training and should encourage a reflective approach to learning.

2. CBL Competencies:

- Medical Record Keeping.
- Clinical assessment.
- Professionalism.
- Diagnostic skills and underlying knowledge base.
- Clinical judgment and decision making.
- Communication and team working.
- Leadership.
- Reflective practice.

3. Process of implementation of CBL session:

A. Before the session:

1) The session of CBL is applied twice weekly.
2) The case is shared with the students three days before CBL time.
3) Submission of Case Report/ Presentation one night before CBL Session.
4) Students prepare the oral presentation and/or case reports depending on the schedule of each rotation that is announced before the beginning of the rotation.

B. During the session:

1) The student setting in Room is a U shape.

2) During the first 10 minutes of the CBL session, the preceptor should ask one or more students to give an oral summary about the Case of the session followed by a preceptor's comments or explanation (see case summary guide attached).
3) CBL session, depending on the length of rotation, includes:
   1. Report discussion of one team.
   2. Oral Presentation of another team.
4) During the discussion, each student shares his/her knowledge and information with colleagues and preceptor through answering the guiding questions that were structured in the patient data care form to cover six aspects including; problem identification, desired outcome, therapeutic alternatives, optimal plan, outcome evaluation, and patient education.
5) At the end of the CBL session, the preceptor should summarize the discussion with medical information in the correct way.

C. After Session:

1. Peer feedback Evaluation (oral feedback is provided by all parties at the end of the session).
2. Preceptor Evaluation (Student Evaluation by preceptor Form ‘‘virtual case’’, and Oral Presentation Evaluation Form, and Virtual Case Report Evaluation Form which is used to evaluate the students after report submission).

4. Time Needed for CBL Session:

The session is running for at least 2 hours:

1. 10 min Preceptor summary of medical case.
2. 20-25 min for oral presentation.
3. 1 hour for case discussion.
4. 15 min Preceptor summarizes the discussion with agreed actions.
5. 10 min Feedback**.**

5. References & Guides:

1. Before the beginning of each rotation, all references related to the cases within the rotation are announced to the students through MOODLE.

2. The students are allowed to use extra references when needed in preparing their reports.
3. Students must use the announced references as they will be examined according to them.

6. Evaluation Forms of CBL:

1. Student Evaluation by preceptor Form (virtual case)

Libyan International Medical University
Faculty of Pharmacy
Pharm D Program
(APPE)

كلية الصيدلة Faculty of Pharmacy

Form Name: Student Evaluation by preceptor Form (virtual case)	Academic Year:20...../20...
Form no: PharmD- Acad-37	Date: / /

Student Evaluation by preceptor Form (virtual case)

Rotation: Case:

Student No.	Student Name	1 Attendance			2 Preparation			3 Listens well			4 Contributes			5 Not dominate			6 Sufficient Information					7 Explain information					8 Accept feedback		Total
	Marks	0	0.25	0.5	0	0.5	1	0	0.25	0.5	0	0.25	0.5	0	0.25	0.5	0	0.5	1	2	3	0	0.5	1	2	3	0	1	10
	Criteria	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	4	5	1	2	3	4	5	1	2	

1. **Time of attendance.**
   (1= absent or arrive at 20 minutes, 2= late more than 10 and less than 20 minutes, 3= attend on time or within 5 minutes)
   Note: students are not allowed the session if arrive after 20 min.
2. **Prepared and read the case before the session**
   (1=not prepared2 = partially prepared, 3= well prepared
3. **Listening well to others' group members and replying within the context.**
   (1= never, 2= sometimes, 3= frequently)
4. **Contributing to the group's discussion throughout the whole session.**
   (1= never, 2= sometimes, 3= frequently)
5. **Not dominating the discussion.**
   (1= never, 2= sometimes, 3= frequently)
6. **Presenting sufficient information that promotes clearer and deeper understanding.**
   (1= very poor performance, 2= poor performance, 3= fair, 4= good performance, 5= excellent performance)
7. **Explains information to others' group members.**
   (1= very poor performance, 2= poor performance, 3= fair, 4= good performance, 5= excellent performance)
8. **Accepting feedback throughout the whole session and during the peer evaluation.**
   (1= no, 2= yes)

Note:
In case of non-professional attitude deducted 2 marks from the total

2. Virtual Case Report Evaluation Form

Libyan International Medical University
Faculty of pharmacy
PharmD Program

Form name: Virtual case report evaluation form	Team ……
Form no: PharmD – Acad-45	Academic Year: 20…/20….
Preceptor Name: ……	Rotation name: ……

Virtual case report evaluation form

Case name:

No:	Student name	Did the student identify case problems?	Did the student determine the desired goals?	Did the student discuss appropriately therapeutic alternatives?	Was the student able to design an optimal plan?	Was the student able to evaluate the therapeutic outcome correctly?	Was the student able to collect sufficient data to educate the patient about his disorder and treatments?

Notes:

3= Satisfied, 2 = Fair, 1= Unsatisfied, 0 = not answered (0)

Give the student 2 marks Bonus:
a) If Student Prepared Extraordinary Report.
b) Used Evidence Base Practice in Solving the Case.

3. Oral Presentation Evaluation form

Libyan International Medical University

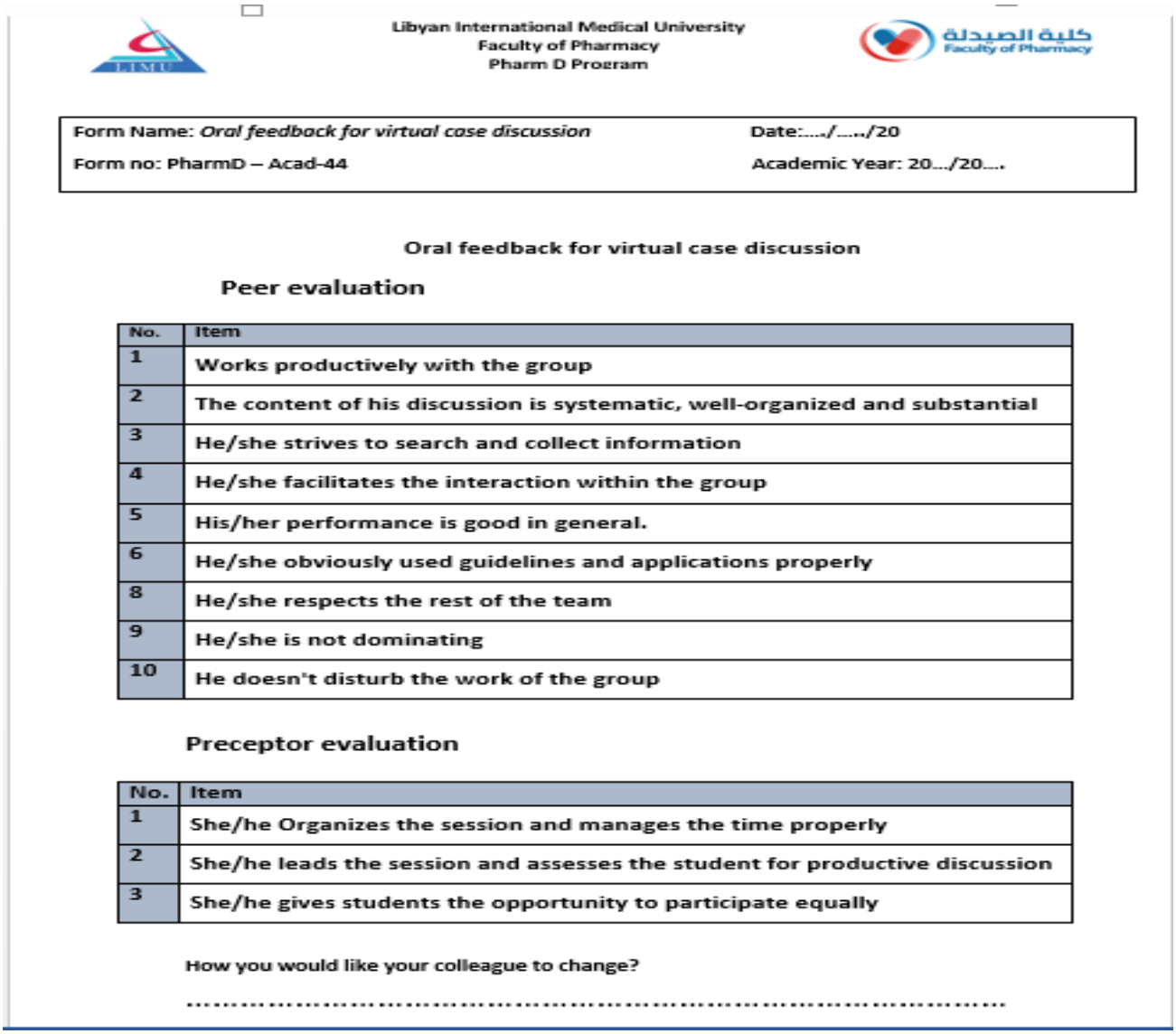
Form Name : *Oral Presentation Evaluation* Version No : 02
Form No : PharmD - Acad_ 05 No of pages: 1

Libyan International Medical University
Faculty of Pharmacy {PharmD Program}
Evaluator Name: ……
Evaluator Signature:……

Year : Block ……/
Problem No. ……
Date: / /

		Team					Presenter				
No.	Student Name	Clear aim	Organized presentation and easy to follow	Time for presentation used effectively	Slides enhanced presentation	Presentation was done in a way that engaged audience	Presenter exhibited a good understanding of topic	Presenter was well-prepared	Presenter spoke clearly/effectively	Presenter responded effectively to audience questions and comments	Total

4. Oral feedback for virtual case discussion.



Libyan International Medical University
Faculty of Pharmacy
Pharm D Program

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Faculty of Pharmacy

Form Name: *Oral feedback for virtual case discussion*	Date:…./……/20
Form no: PharmD – Acad-44	Academic Year: 20…/20….

Oral feedback for virtual case discussion

Peer evaluation

No.	Item
1	Works productively with the group
2	The content of his discussion is systematic, well-organized and substantial
3	He/she strives to search and collect information
4	He/she facilitates the interaction within the group
5	His/her performance is good in general.
6	He/she obviously used guidelines and applications properly
8	He/she respects the rest of the team
9	He/she is not dominating
10	He doesn't disturb the work of the group

Preceptor evaluation

No.	Item
1	She/he Organizes the session and manages the time properly
2	She/he leads the session and assesses the student for productive discussion
3	She/he gives students the opportunity to participate equally

How you would like your colleague to change?

……

References:

1. https://nanopdf.com/download/cbd-presentation-2_pdf
2. https://www.iscp.ac.uk/static/public/cbd_guidance.pdf

Tutorials

Definition of Tutorial

A tutorial is a method of transferring knowledge that is usually used as a part of a learning process. More interactive and specific than a book or a lecture, a tutorial seeks **to teach by example, engage students and supply the information to complete a certain task**.

Planning a Tutorial

Planning a tutorial means not only planning the aims and content of the tutorial but also what the students will do, the resources they will use and how they will work together. Keep in mind **a tutorial is not a "mini lecture"**

These eight steps cover the key areas that need to be addressed in a tutorial plan:

1. **Stick to the intended learning outcomes (ILOs)**

   Intended learning outcomes describe what students should be able to do by the end of the tutorial and when planning the session, you should make sure that the tutorial material covers the ILOs of the tutorial.

2. **Allocate time for each tutorial activity**

   Have a plan for what activities will take place during the tutorial, how many students will be actively involved and approximately how much time each activity is likely to take. This might mean identifying essential discussion questions, short exercises, setting aside time for summaries and student questions. It is best to allocate 5-10 extra minutes as tutorials won't always follow your time plan.

3. **Identify how students will actively participate**

   Avoid tutorials turning into **'mini-lectures'** by planning in opportunities for students to actively contribute to discussions. When planning the tutorial, try designing exercises for students to work through in groups or pairs, structuring the tutorial around discussion prompts, or asking students to come prepared to present or explain an aspect of their tutorial work. This will encourage all students to participate in the tutorial and to learn from each other as well as the tutor. Identify where the flipped classroom model makes the most sense for the tutorial ILOs and use it if possible.

4. **Take advantage of student diversity**

   Students will bring different prior learning experiences, interests, confidence and motivation, amongst other things, to tutorials. Actively recognising student

diversity is important and it can be achieved in many ways, including, providing different ways for students to engage in tutorial discussions (such as pairing introverted students with extroverted peers) and by using a range of learning resources to support tutorial work/discussions and activities.

5. **Identify resources needed and how these will be used**

   Include in your plan any details of resources that will be needed to support the tutorial. This includes resources that students are expected to use in preparation for the tutorial, such as textbooks, peer reviewed papers and trusted websites (all resources materials need to be sent to students at least one day before the tutorial session), and those that will be needed during the tutorial itself including markers, whiteboard, flipchart, video, models and diagrams.

6. **Provide feedback to students on their preparedness to the tutorial**

   Make sure to think of how and when you will provide feedback to students on their tutorial preparation and performance in the class. In most cases this will be provided in the form of verbal feedback during the tutorial. Ensure your feedback clearly identifies strengths, prioritises areas for future improvement and is articulated in ways to motivate and encourage your students.

7. **Take into account individual student's learning requirements**

   Check with the coordinator whether students have specific learning requirements and/or difficulties where teaching adjustments are essential and could impact your ideas for the tutorial.

8. **Allocate marks to the group as a whole and not to each student individually.**

   When you are done with providing verbal feedback to the students (individually and to the whole group), make sure to write down the group mark in the form provided by the coordinator.

- ✓ **Successful example of tutorial session**

Steps for successful example of tutorial session by Dr Hanan Alawami

1. Upload the tutorial material on the moodle two days before the tutorial session with help of coordinator.
2. Ask the coordinator to attend with you at the beginning of the session to make sure students are sitting according to their groups.
3. Bring a copy of the tutorial materials with you and divide it according to ILOs and group
4. Give each group their part of the material.

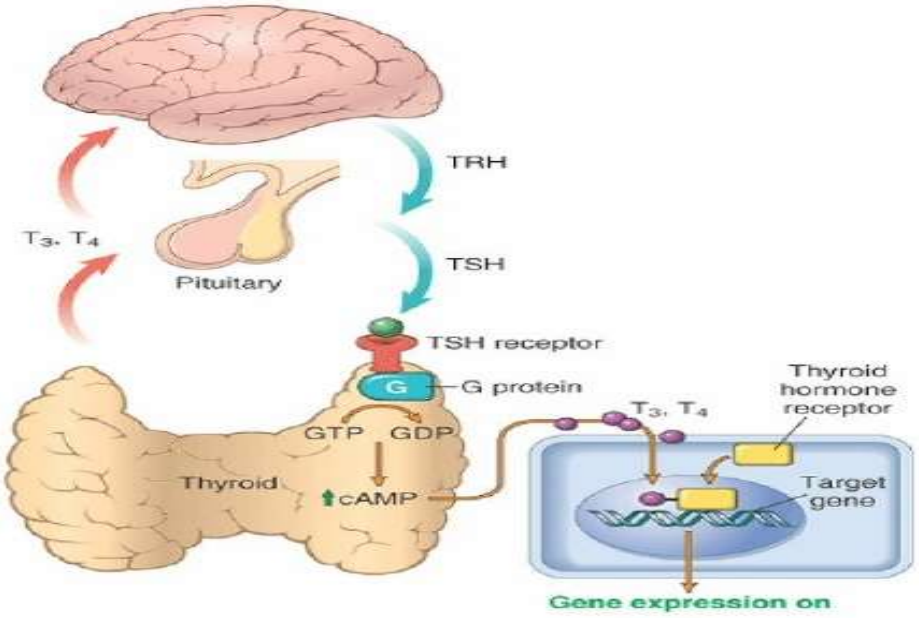
5. Ask the students to discuss their part within the group in 10 minutes.

6. Ask each group to choose a presenter from the group and present what is their part in 3 min orally or on the board and mark the group understanding of the topic.

7. Make sure that a new student will be a presenter each week.

8. Summarise the tutorial topic in the last 10 min of the session and answer students questions.

Group A



Group B

Mitogenic pathways in the regulation of thyroid growth and function

The thyroid gland is composed of follicular cells which constitute about 70 percent of the gland, endothelial cells which constitute about 20 percent of the gland and the rest formed by fibroblasts. In a normal adult, the weight and composition of the gland remain fairly constant, with cell turnover about 6–8 renewals in adult life. The growth of cells in the thyroid is closely regulated, with the thyrocyte controlling the functions of other cells through secretion of paracrine factors like fibroblast growth factor (FGF) and insulin-like growth factor I (IGF-I).

Abnormal proliferation leads to disease states like goitre, adenomas or carcinomas, whilst hypoplasia can lead to hypothyroidism. Thyroid follicular cells undergo differential growth patterns with different rates of growth within the same thyroid gland due to different patterns of growth factor responsiveness, thereby leading to the

goitrous state. With further stimulation by growth factors over time, focal hyperplasia may result.

In the thyroid gland, three distinct mitogenic pathways have been well defined namely: the hormone receptor–adenylate cyclase–cAMP protein kinase A system (AC/cAMP/PKA), the hormone receptor–tyrosine protein kinase pathways, and the hormone receptor–phospholipase C cascade (PLC) pathway.

TSH is the major stimulator of the AC/cAMP/PKA pathway by interacting with the TSH-receptor (TSH-R). Binding of TSH to TSH-R activates Gsα and adenylate cyclase, which results in the generation of cAMP, and further activates protein kinase A (PKA). This cascade accounts for TSH-mediated regulation of function, differentiation and proliferation of the thyroid gland

Group C

Neoplasms of the Thyroid.

Benign neoplasms out number thyroid carcinomas by a ratio of nearly 10:1.

Benign tumors include follicular adenoma and its variants, such as those with papillary architecture.

Carcinomas of the thyroid are thus uncommon, accounting for under 1% of solitary thyroid nodules.

- *Solitary nodules,* in general, are more likely to be neoplastic than are multiple nodules.
- *Nodules in younger patients* are more likely to be neoplastic than are those in older patients.
- *Nodules in males* are more likely to be neoplastic than are those in females.
- A history of *radiation* treatment to the head and neck region is associated with an increased incidence of thyroid malignancy.
- Nodules that take up radioactive iodine in imaging studies (*hot nodules*) are more likely to be benign than malignant

Several clinical criteria might provide a clue to the nature of a given thyroid nodule:

Group D

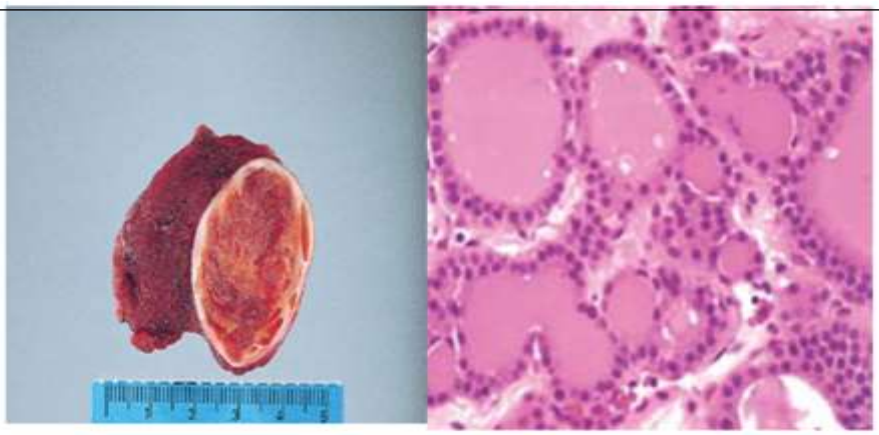
Adenomas:

Adenomas of the thyroid are typically discrete, solitary masses. With rare exception, they are derived from follicular epithelium and so might all be called *follicular adenomas*. A variety of terms have been proposed for classifying adenomas on the basis of degree of follicle formation and the colloid content of the follicles. Simple colloid adenomas (macrofollicular adenomas), a common form, resemble normal thyroid tissue; others recapitulate stages in the embryogenesis of the normal thyroid (fetal or microfollicular, embryonal or trabecular). There is limited utility in these classifications because mixed patterns are common, and most of these benign tumors are non functional.

Clinically, follicular adenomas can be difficult to distinguish from dominant nodules of follicular hyperplasia or from the less common follicular carcinomas. **Numerous studies have made it clear that adenomas are *not* forerunners of cancer except in rare instances**. Although the vast majority of adenomas are non functional, a small proportion produces thyroid hormones and cause clinically apparent thyrotoxicosis.

Pathogenesis:

The *TSH receptor signalling pathway* plays an important role in the pathogenesis of toxic adenomas. *Activating ("gain of function") somatic mutations in* TSH receptor itself cause chronic overproduction of cAMP, generating cells that acquire a growth advantage. This results in clonal expansion of follicular epithelial cells that can autonomously produce thyroid hormone and cause symptoms of thyroid excess.



Follicular adenoma of the thyroid. A solitary, well-circumscribed nodule

well-differentiated follicles resembling normal thyroid parenchyma

CARCINOMAS
Most cases occur in adults, although some forms, particularly papillary carcinomas, may present in childhood.A female predominanceThe major subtypes of thyroid carcinoma:Papillary carcinoma (75% to 85% of cases)Follicular carcinoma (10% to 20% of cases)Medullary carcinoma (5% of cases)Anaplastic carcinoma (<5% of cases)
Thyroid cancers are the most common endocrine malignancy. Radiation exposure, family history of thyroid cancer and some inherited conditions are the most important predisposing factors for the development of thyroid cancer. Three mitogenic signalling pathways have been described in the thyroid cell, which are influenced by various stimulatory and inhibitory hormones, growth factors and neurotransmitters. Various proto-oncogenes and oncogenes like ras, braf, trk, met and RET also play a role in the signal transduction systems.
. ***Two theories have been described in thyroid cancer pathogenesis, the foetal cell carcinogenesis theory and the more common, multistep carcinogenesis theory***
The theory hypothesises that cancer cells are derived from the remnants of foetal thyroid cells. The foetal thyroid cells are rarely seen in normal thyroid development, whereas once the foetal cells are transformed into cancer cells, the cells are no longer under control. According to the foetal cell theory, genomic changes do not play any role in the foetal cell carcinogenesis, unless the genomic changes prevent the foetal cells from differentiation.

Multistep carcinogenesis theory
According to the multistep carcinogenesis theory, most cancers are clonal in origin, arising from a single abnormal cell and progress as a result of number of inheritable alterations.

Based on the multistep carcinogenesis theory, follicular carcinomas are generated from follicular adenomas and papillary carcinomas from precursor cells generated from thyrocytes. Anaplastic carcinoma may develop from papillary or follicular carcinoma by dedifferentiation.

Multistep carcinogenesis model of thyroid cancer formation. Formation of benign thyroid tumours occurs as a result of alteration of various growth factors. The follicular neoplasms are formed from thyrocytes by mutations of ras and other factors as shown in the figure. Papillary cancers are formed by alterations in RET/PTC and other oncogenes. The undifferentiated tumours are formed from the differentiated tumours by mutations of tumour suppressor genes
.

Group E

Group F

Pathogenesis

Genetic

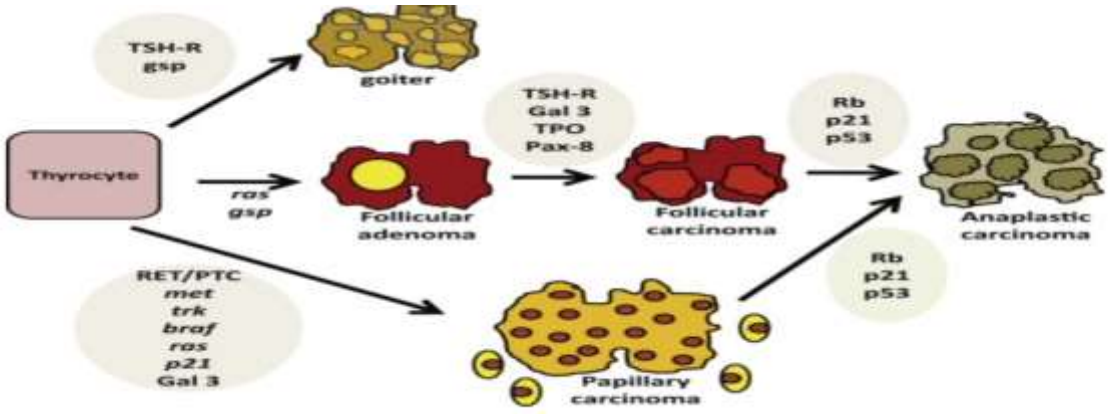
Distinct molecular events are involved in the pathogenesis of the four major variants of thyroid cancer: *Genetic alterations* in the three follicular cell–derived malignancies are clustered along two oncogenic pathways (*the mitogen-activated protein (MAP) kinase pathway* and the phosphatidylinositol-3-kinase (PI-3K)/AKT pathway ---lead to constitutive activation, even in the absence of growth factors, thus promoting carcinogenesis

Papillary thyroid carcinomas.

Activation **of the MAP kinase pathway is a feature of most papillary carcinomas. One third to one half of papillary thyroid carcinomas harbor a gain-of-function mutation in BRAF (**whose product is a component of the MAP kinase pathway) which controls several important cell functions.

Follicular thyroid carcinomas. ***Follicular thyroid carcinomas frequently harbor driver mutations in RAS or in components of the PI3K/AKT signaling pathway.***

Group G



Genes implicated in thyroid tumorigenesis

Cancer	Oncogenes	Tumour suppressor genes
➢ Papillary thyroid Carcinoma	RET, MET, TRK1,RAS, BRAF	p53
➢ Medullary thyroid carcinoma	RET	
➢ Follicular carcinoma	Ras, PAX8/PPAR	P53, PTEN
➢ Anaplastic	BRAF	p53.

Group-Based Flipped Classroom

Presentations

1.What do you want to present?

- Gather or collect the relevant information to your topic.
- Plan: Know what is your topic about, presentation duration time, and number of slides.
- Make sure that you understand all information in your presentation.
- Make sure that you do not copy information form the source.
- Use visual aids and slides.

- Make your slides attractive and academic.

2.Presentation outline/ structure

- Tell audiences what you want to present (Objectives & Introduction to presentation).
- Tell them (body of the presentation).
- Tell them what you have told them (Summary).

3.Revise your presentation

- Write the title of the topic, your name, your student ID number in the middle of the first slide.
- Make sure that you have put the university logo on the top left on the first slide while the Faculty of Pharmacy logo on the top right of the first slide.
- Make sure that you add a slide number.
- Check your presentation and correct any spelling or grammar mistakes if available.
- Give all figures and tables numbers and captions.
- Check that the information is relevant.
- Make your presentation easy to follow.
- Use clear font style and size (28-30 point) for power point.
- Use suitable color.
- Keep the slides brief and not crowded.
- For 15-minute presentation prepare 10-12 slides.

4.Practice

- Rehearsal with your friends or academic supervisor.
- Record your practice on the presentation to check your pronunciation and duration of presentation.
- Practice enough time before your presentation.

5.Presentation day

- Make sure that you have a copy of your presentation in flash memory as on your laptop and at google drive as well.
- Arrive 30 minutes before your presentation session.
- Introduce yourself to the audience at start of your presentation.
- Speak clearly & loudly.

6.How should you present?

- Take a deep breath before starting.
- Speak do not read.
- Keep eye contact with the audience.
- Use open body language.
- Smile and slow down.
- Finish within the timeframe.

Debates

1.What is the debate?

A debate is a discussion or structured contest about an issue or a resolution. A formal debate involves two sides: one supporting a resolution and one opposing it. Such a debate is bound by rules previously agreed upon. Debates may be judged in order to declare a winning side.

2.Importance of debate:

- Improve student's confidence level to speak in public.
- How to respect different opinions.
- Teach students how to create a persuasive argument.
- Improve critical thinking, researching, and presentation skills.
- Improve self-discipline.
- Help students to improve theirs intellectual, scientifical, cultural and social skills.

3.Structure of debate:

- Debate topic: can be a statement, policy or idea.
- Debaters: Divided into two teams (Proposition and Opposition) and each team involves 4 speakers.
- **The Judgment committee consists of Chair (tutor), Timekeeper (tutor) & Judge (an academic staff)**
  - Chair: who starts the debate session and gives an introduction that includes the objectives of the debate, introduces the four speakers of each team (the proposition and the opposition teams) at the debate session. Then he/she manges and facilitates the session. Also, chair should mention clearly what should each team (opposition or proposition) does to win with the debate.
  - Timekeeper: Responsible for tracking the time of each speaker and signaling the beginning and end of the protected time.
  - Judge: to judge each speaker and how well they represent their speech based on specific criteria and announce the winner.
- (**Th**e specific criteria include (Body language, the tone of the speaker, eye contact, strength and structure of the argument being presented, and presentation skills)
  - Audience members: The audiences are not allowed to participate in the discussion BUT they have to vote before and after the debate.

4.Rules of debate:

- Each speaker typically speaks for 5 minutes, with the timekeeper indicating the end of the allotted time with a gavel.
- Points of information can be raised by opposing teams during the speeches of their opposition, but these are prohibited during the 'protected' first and last minute of a speech. They can also be rejected by the speaker at any time and may be disallowed by the chair if they express personal opinions.

5.Roles of Each Speaker respectively:

- The first speaker from the proposition team is called the prime minister and includes the following tasks assigned to him:
  - Welcoming the audience.
  - A brief introduction that includes the objectives of the debate
  - View the team chart.
  - Present their first argument.
  - Conclusion and reminder of the objectives.
- The first speaker of the opposition team is called the Leader of the Opposition and includes the following tasks assigned to him:

  -Welcoming audience.

  -Refuting the arguments of the first speaker of the proposition team.

  -View the team chart.

  -Present their first argument.

  -Conclusion and reminder of the objectives.

- The second speaker from the proposition team is called the Deputy Prime Minister and includes the following tasks assigned to him:

  -Welcoming the audience.

  -Refute the opposing team's arguments.

  -Present the argument.

  -Conclusion and reminder of the objectives.

- The second speaker from the opposition team is called the deputy leader of the opposition and includes the following tasks assigned to him:

  -Welcoming the audience.

  -Refute the opposing team's arguments.

  -Present the argument.

  -Conclusion and reminder of the objectives.

- The third speaker from the proposition team member of the proposition and includes the following tasks assigned to him:

-Welcoming the audience

-Refute the opposing team's arguments.

-Present the argument.

-Conclusion and reminder of the objectives.

• The third speaker from the opposition team is called the member of the opposition and includes the following tasks assigned to him:

-Welcoming the audience.

-Refute the opposing team's arguments.

-Present the argument.

-Conclusion and reminder of the objectives.

•The fourth speaker from the proposition team is called the active member and includes the following tasks assigned to him:

-Welcoming the audience.

-Summarizing the arguments of the two teams (in favor of the proposition).

-Strength points of proposition speakers and weakness points of opposition speakers.

-Conclusion and link to objectives.

•The fourth speaker from the opposition team is called the active opposition member and includes the following tasks assigned to him:

-Welcoming the audience.

-Summarizing the arguments of the two teams (in favor of the opposition).

-Strength points of opposition speakers and weakness points proposition speakers.

-Conclusion and link to objectives.

6.Who wins?

1.The chair, timekeeper, and the judge meet between them take the average of evaluation (count 20% of total voting).

2.The audiences vote at the end of the debate (80% of voting).

3.The judge will announce the winning team in the end of the debate.

7.Debating Tips and Techniques:

-Preparation of your topic.

-Stay on topic.

-Speak slowly, clearly, and charismatically.

-Be confident with your topic.

-Think about your body language and what it's saying to your audience.

-Listen and take notes.

-Anticipate your opponent's questions before they're uttered.

-Tell a story or give an illustration with an example to make your point.

-Use a strong conclusion.

Note: Adapted from British Parliament.

Inter-Professional Education Guide
IPE Guide

Definition:

Inter-professional education occurs when two or more professions learn from, with, and about each other to improve collaboration and quality of patient care and health services.

From (who's involved):
Trust, respect, confidence in other's skills

About:
Roles & responsibilities
Values. Avoids stereotypes

With (process):
Interaction
Active engagement
Teamwork
Collaboration

Goal of IPE

• IPE enables students to acquire knowledge, skills and professional attitudes they wouldn't be able to acquire effectively in any other way.

• IPE provides undergraduates the opportunities for shared gained knowledge and skills.

Principles of IPE:

- Works to improve the quality of care.
- Involves service users and care-providers.
- Promotes inter-professional collaboration.
- Increases professional satisfaction.
- Places patient care at the center of learning.

IPE Domains:

Values and Ethics

Work with individuals of other professions to establish an environment of mutual respect and shared values.

Inter-professional Communication

Communicate with patients, families, communities, and other health professionals in a responsive and responsible manner that supports a team approach to the maintenance of health and the treatment of diseases.

Roles and Responsibilities

Use knowledge of one's own role and those of other profession to appropriately assess and address the health care needs of the patients

Team and Teamwork

Apply the principles of team dynamics to perform effectively in different team roles to plan and deliver patient centered care that is safe, efficient, effective, and equitable.

IPE session Elements

- Lectures
- Team-based learning sessions
- Workshops
- Assignments
- Role plays
- Using different digital learning media
- Internet searches
- Oral presentation search

IPE session steps

Before the session:

- IPE committee runs IPE sessions at least three times per academic year.
- Students receive an introductory lecture about IPE concept.
- Announcements, students' teams and material are uploaded to the Moodle.

During the session:

- Students will be divided into teams.
- Each team composed of 5-6 students from different health professions for in class discussion and out of class project.
- All teams operate simultaneously according to the rules of each case scenario

After the session:

- Students will evaluate the session.

Students' role:

- Prepare the topic in advance.
- Read about the topic to have enough background information.
- Active participation during the session is mandatory.

LIMU experiences of IPE:

- IPE committee is composed of members of different faculties (Pharmacy, Medicine and Applied Medical Sciences) who works cooperatively in one campus to design case scenarios and provide guides and supporting materials for each case.

- The following link shows LIMU experience: https://youtu.be/IPbLGiv1fcY