Engaging students through Interactive Lecturing

Lecturing is the most traditional modality of conveying knowledge. In a traditional lecture, the knowledgeable/expert person stands at the front and talks about their area of expertise with the hope and expectation that the listeners will absorb that knowledge. That is what has been referred to in the literature as the "Sage on the Stage". We have all been through classes where this was the exact scenario and we have all left that class with some knowledge. Was it a fun class? Was it a boring class? Did we snooze sometimes? Possibly...

Interactive lectures, also referred to as "dynamic lectures", are classes in which the instructor incorporates engagement activities throughout the class session. In this mode of delivery, the instructor breaks the lecture with activities that require the students to construct their own knowledge.

The rationale of an interactive/dynamic lecture.

These are some of the main reasons behind incorporating the engagement activities in a lecture session:
1. to maintain students' attention,
2. to help students apply and organize new information,
3. to allow students to interact with the course content while exercising their critical thinking skills.

The structure of an interactive/dynamic lecture.

The structure of an interactive lecture could be conceptualized as follows:
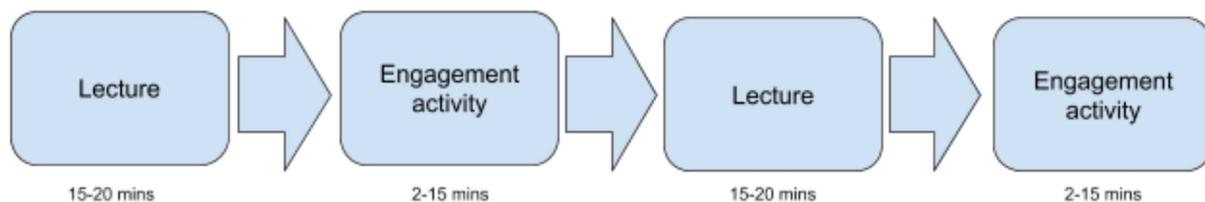
Interactive lectures are divided into segments. A lecturing segment where students are introduced to concepts and ideas, and activity segments where students interact with the content and/or with each other.

How do we plan for an interactive lecture?

Planning an interactive/dynamic lecture is not different from planning any other type of lesson. It is, however, a critical step when teaching a large enrollment class. Teaching a class without a plan is similar to hiking the wilderness of Maine without a map, it is doable but not very efficient and a lot of things could go wrong.

There isn't a one-size-fits-all type of lesson plan. Each instructor has their own style and way of planning their lessons. However, there are some general processes that underlie lesson plan and that this the focus of this module.

Step 1: Deciding on the content and writing learning objectives:
The first step in planning your lesson is to decide on the content you will cover. To help achieve this, think about the following:
- who your students are
- what they know
- what you would like them to know and be able to do
- why it is important for them to know that
- what are some possible misconceptions/preconceptions they might have

Answering these questions will allow you to get the "big picture". In other words, it will allow you to define a starting point. There are many teaching techniques that you can use to answer these questions. For example, you can use "**background knowledge probe**" to determine students' prior knowledge; you can use "**misconceptions/preconceptions Check**" to get a better idea of student's misconceptions that could hinder their ability to construct new knowledge. (see handout for description of the aforementioned techniques)

Once you have determined what content to cover, you move to writing your learning objectives. Like your course objectives, your learning objectives need to be specific, measurable, achievable, relevant, and time-oriented. They also need to be student-centered in the sense that they describe what students will be able to do at the end of the class.

Step 2: Matching teaching method/technique to learning outcomes.
Now that you have a general idea of the content you are covering in your class session and the rationale for it, it's time to start thinking about how you are going to get there.

To start planning your lecture, subdivide the major topic/s into 15 - 20 minutes chunks followed by student-active breaks of 2 to 15 minutes. The central factor here is to ensure that the lecture segment and the student activities align with the learning objectives in that they allow the students to acquire the intended knowledge. For example, if your learning outcome is: "students will be able to list three differences between behaviorism and constructivism, then the lecture segment should introduce the similarities and differences between behaviorism and constructivism, and the activity designed should give students the opportunity to practice comparing/contrasting behaviorism and constructivism. To effectively establish a student-centered learning environment, students need to be actively involved. This means that they need to interact with you, with each other and with the material. Here are some types of interactions you might consider:
- Instructor-student (I-S): Teacher explaining something, asking questions of the class as a whole, playing a game
- Student-student (Pair, Group): Students working in pairs or small groups
- Student-resource (S-app, S-book): Students working with a resource (app, book, worksheet, website etc.)

Step 3: Gauging student learning:
One other thing to consider when planning your lecture is how you are going to gauge student learning. In other words, how you will ensure that you have achieved your goals and that your students have reached the level of mastery you intended for them to reach. To gauge student learning, think about activities that involve retrieval of information such as opening and closing questions, small quizzes, and online retrieval.

While designing activities to gauge student learning, it's critical to articulate your criteria for evaluating students' performance. This will help you ensure that what you do in the lecture helps your students develop the knowledge and the skills you expect them to demonstrate in an assessment.