Lecturing as a traditionally teaching method has been challenged in terms of its potentials to facilitate an interactive learning environment; however, lecturing is still broadly used by many faculty in different disciplines. There are different reasons why faculty tend to use lecturing more than other more engaging strategies in the class. They may be concerned about covering all the content they want to teach or perhaps the large number of the students hinders applying active learning strategies in the classroom.

<table>
<thead>
<tr>
<th>EFFECTIVE</th>
<th>INEFFECTIVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educator-student interaction</td>
<td>100% educator talk; limited or no interaction</td>
</tr>
<tr>
<td>Two-way communication</td>
<td>One-way communication</td>
</tr>
<tr>
<td>Educator-student questions</td>
<td>Few if any questions (educator or student)</td>
</tr>
<tr>
<td>Shared responsibility for active learning</td>
<td>Student depends on educator for all information</td>
</tr>
<tr>
<td>Small group, problem solving activities</td>
<td>No student activities</td>
</tr>
<tr>
<td>Variety of supporting media</td>
<td>No supporting media</td>
</tr>
<tr>
<td>Limited note taking required (students have copies of lecture notes)</td>
<td>Extensive note taking required</td>
</tr>
</tbody>
</table>

Lecturing can embody evidence-based and active learning techniques that makes them interactive and effective. Lenz et al. (2015) discuss that applying good principles of instructional design, multimedia learning, visualization of quantitative data, and informational public may enhance the quality of any lecture.

The authors describe interactive lecturing as the one that uses “teacher-learner” and “learner-learner” interactions to actively incorporate the material presented during the lecture and mention the following as facilitating an engaging lecture:

- The storyline must be clear, logical, and simplified compared with how it might be prepared for scientific publication
- Succinct outline and summary slides can provide a road-map for the audience
- Changes of pace, and summaries or other cognitive breaks inserted every 15–20 minutes can renew attention
• Graphics that emphasize clear, digestible data graphs or images over tables, and simple, focused tables over text slides, are more readily absorbed

• Text slides should minimize words, using simple fonts in colors that contrast to a plain background

Questions are one of the important elements of effective lecturing. The instructor may apply questions

1. At the beginning of the session to check for the students’ prior knowledge;
2. In the middle of the session to check for their understanding; and
3. At the end of it to co-develop a conclusion.

AN EFFECTIVE LECTURE WILL...

• Address the students’ needs and interests
• Attract the students’ attention to the topic presented
• Apply multiple presentation tools and procedures other than just speaking
• Apply group work activities
• Incorporate reflective questions to check for understanding
• Dedicate time and space to teach the students the strategies and content

REFERENCES

