Improving Lecture Quality:

Faculty Development to Support MDUP Lecturers

Thank you for your commitment to teaching in the MD Undergraduate Program (MDUP). Recent evaluations have highlighted lecture quality as a priority for faculty development. To begin to address this, faculty developers along with student representatives and curriculum renewal leadership have developed a resource package that includes the following:

1) An **evidence-based guide** outlining key principles that should be considered when lecturing in the MDUP (pp.1-2)
2) A **checklist** that can be used as a tool if you would like a student, peer, or course director to observe your lecture and provide feedback (p.3)
3) A **template for a handout** with key take-home messages that you can provide to students instead of, or in addition to, your slide deck (p.4)
4) A list of **resources** that have been referenced in this guide and provide additional reading (p.5)

If you have any questions about the attached, or if you would like to receive additional support to improve the quality of your lecture (e.g. having someone peer review your lecture), please contact **fac.dev@ubc.ca**. We hope you find this evidence-based guide, checklist, and handout template helpful as you prepare your lecture.
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Large group learning is an opportunity for students to CONTEXTUALIZE and APPLY information

Research shows students LEARN MORE with improved lecture design\textsuperscript{1-7}

I. PHILOSOPHY

This is the age of Self-Directed Learning (self-regulated if you like). Students have unrestricted access to unlimited sources of knowledge. Lecturing solely for the purpose of providing knowledge is unnecessary. Today’s lectures should not strive to be “better” than lecturers of 50 years ago; they need to be entirely different.

PURPOSE: The purpose of a lecture is to...

• Provide a conceptual framework or “scaffolding” on which to build knowledge
• Rivet attention
• Promote understanding
• Inspire and stimulate the learner to “learn on their own”
• Apply knowledge with the guidance of an expert (you!)

KEY POINTS:

- Lectures are a tool for learning, not teaching
- The purpose is to support Self-Directed Learning
- Lectures are not about simply Information Transfer
- Lectures fail because of “information overload”
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II. HANDBOOKS

“What do I NEED to know?” is summarized in the handout

Each lecturer provides a 1-2 page summary handout containing references for further reading. The handout should abide by the following guidelines:

- **LENGTH:** Aim for 1-2 pages long.
- **DETAIL:** Do not attempt to write a textbook or copy all the slides; summarize concepts related to the objectives & list useful readings.
- **READING:** Handouts should provide references for up to 1.5 hours of reading. Students can have up to 8 lectures per week, so any more than 1.5 hours per lecture can be overwhelming.
- **STRUCTURE:** Consider structuring handouts in the outline of your lecture, and including space for students to take notes.

**EXAMPLE TEXT:** “After this lecture, you should be able to answer the following 5 questions.” Also, see included handout template.
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III. INTERACTIVITY

Research shows interactive techniques increase retention\(^{10,11}\)

Lecture time is now used to discuss CONCEPTS, tell clinical STORIES, and INSPIRE further learning\(^1,8\)

DIDACTIC: Your teaching is still valuable; lectures are more effective if they contain some didactic portion in combination with interactive components, not just interactive components.\(^10\)

TECHNIQUES: Framing is a technique that can help students realize why information is important. For example, you could ask students: “If this case was on your next OSCE, what diagnoses would you be sure to consider?” or “If you were explaining this test or medication to the patient’s family, how would you explain how it works?”

EXAMPLES:\(^{6,9,12}\)

- Hand-raising is effective at improving interaction
- Ask students to answer quiz questions
- Get in pairs and discuss a clinical question
- Answer short written questions
- Conduct a brief debate

Explanations of these techniques and more techniques are available in reference #9.

FUN TOOLS: A Jeopardy game or getkahoot.com or polleverywhere.com are highly rated by students\(^1\)
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IV. SLIDE DESIGN

Students retain more when slide design is improved

Effective slides contain both words and pictures. Aim to have large images with as few words as possible.

SUMMARIZE: Frequent use of summary slides increase learner satisfaction and are associated with higher quality lectures. Slides should contain the bare minimum to outline your talk. Carefully consider the number of slides. More is not always better (90 slides is TOO many).

• EXAMPLE: A 5-bullet-point list of differential diagnoses could be distilled to 5 slides of one word per slide, and one representative image per slide.

• EXAMPLE: “The blood glucose values diagnostic of diabetes are 7 for fasting and 11.1 for random” could be distilled down to the 7-Eleven logo.

For more examples of slides redesigned to improve retention, see References #2 & 3

If it doesn’t add, it detracts.

Example Slide:

To distill down your slides, strip them of as many words as you can to preserve the message while minimizing distractions.

DISTILL YOUR SLIDES
# CHECKLIST ::: Lectures for a CBL Curriculum

We encourage you to complete this checklist prior to delivering your lecture. You can also ask a student, peer, or someone from faculty development (fac.dev@ubc.ca) to provide you with feedback on your lecture using this tool.

## HANDOUTS

- Prepare a handout that clarifies (or links to) what the students NEED to know from your lecture
- Limit the handout to no more than 2 pages in length
- Limit the handout to 1.5 hours of reading

*Feedback Comments:*

## INTERACTIVITY

- Plan to include at least 2 interactive techniques during the presentation
- Choose the techniques by asking, “What do students NEED to understand,” then use the techniques that will help them learn it best
- Make sure the interactive components reinforce testable material

*Feedback Comments:*

## SLIDE DESIGN

- Remove everything from the slides that can be moved to the handout
- Minimize the number of slides, and the number of words per slide\(^2,3,14\)
- Insert summary slides throughout the lecture\(^7,12,13\)

*Feedback Comments:*
Objective #1: Summarize the properties of a screening test

Key Points:
- A good screening test must be reliable, valid with a high sensitivity, and be safe, cheap, quick, and easy to use.
- The validity of a screening test may be described by its accuracy, sensitivity, specificity, positive and negative predictive values, and positive and negative likelihood ratios.
- The positive and negative predictive values of a screening test are affected by the prevalence of the disease in the population to be screened.

<table>
<thead>
<tr>
<th>Subsequent disease (“truth”)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Totals</td>
</tr>
<tr>
<td>Test abnormal</td>
<td>TP</td>
<td>FP</td>
<td>TP+FP</td>
</tr>
<tr>
<td>Test normal</td>
<td>FN</td>
<td>TN</td>
<td>FN+TN</td>
</tr>
<tr>
<td>Totals</td>
<td>TP+FN</td>
<td>FP+TN</td>
<td>TP+FP+FN+TN</td>
</tr>
</tbody>
</table>

Sensitivity = \( \frac{TP}{TP+FN} \)  
Specificity = \( \frac{TN}{FP+TN} \)  
Accuracy = \( \frac{(TP+TN)}{(TP+FP+FN+TN)} \)

Positive likelihood ratio (LR+) = sensitivity / (1-specificity)
Negative likelihood ratio (LR-) = (1-sensitivity) / specificity

Further Reading:

Objective #2:

Key Points:
- 

Further Reading:
- 

Etc... for all objectives
REFERENCES

1 UBC MD UG feedback on lectures (from students & faculty), 2015.


7 Moore, S. From Great to Outstanding: Take your medical presentations to the next level. A review of the literature, best practices, and idea-sharing. CFPC Family Medicine Forum, November 2015.

8 Fairholm, D. Effective Lectures for a CBL Curriculum. 2015.


14 AAMC Effective Use of Educational Technology in Medical Education.

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