

Strategies for Facilitating Case Based Learning



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Artwork by Katerina Mertikas



MD Program
UNIVERSITY OF TORONTO

Disclosures

We have nothing to disclose

There might be technical difficulties

Objectives

By the end of this webinar, you will be able to:

- Describe the CBL teaching paradigm
- Explain what your role is as a CBL tutor
- Explain what the student's role is in CBL
- Describe general strategies for engaging students in active learning including asking good questions

Introductions with Ice Breaker



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Have you ever facilitated CBL?

- a) No, this is my first time
- b) Yes, for the last 1-3 years
- c) Yes, for the last 3-6 years
- d) Yes, for the last 6 years and PBL before that

Use the Chat

What are you hoping to get out of this session?

Our Old Classroom



Artwork by Katerina Mertikas

The Flipped Classroom



Artwork by Katerina Mertikas

What did we learn from The ZOOM Classroom?

m Meeting ID: 570-057-336

Speaker View

Rob Goldberg

Zoom Group Chat

Stop Video

Invite

Participants 10

Share Screen

Chat

Record

Reactions

Leave Meeting

From [redacted] to Everyone:
Confused: does the term "pituitary hyperfunction" imply overproduction of any pituitary hormone? It seems like it is generally used to relate to prolactin specifically, which would be the most common?

From [redacted] i to Everyone:
in the end, if we have time: different between Toxic nodular goitre and toxic adenoma and how they present differently

From [redacted] to Everyone:
Curious: workup in search for secondary OP - why we measure each thing (e.g. TSH, vitD, ALP)?

From [redacted] to Everyone:
Confused: Pathophysiology underlying psychiatric overtones in hypercalcemia

From [redacted] o Everyone:
Curious: Why does the word "incidentaloma" exist?

From [redacted] to Everyone:
Curious: Switching patients to denosumab from bisphosphonate

From [redacted] to Everyone:
Confused: technetium scan vs. radioactive iodine uptake. When to use which one.

From [redacted] to Everyone:
Confused: Does adrenal insufficiency always lead to decrease in both cortisol and aldosterone?

To: Everyone

Type message here...

What is CBL?

- Involves the use of learning activities based on patient cases
- Basic, social, and clinical sciences are studied in relation to the case, are integrated with clinical presentations and conditions
- Learning is associated with real-life situations

Preparing medical students for future learning using basic science instruction

Maria Mylopoulos¹ & Nicole Woods²

- Participants who received basic science instruction demonstrated better learning of novel related content than did those who received only clinically focused instruction
- Basic science instruction allows students to develop a coherent framework for the understanding of clinical knowledge, which, in turn, prepares them for future learning

CBL vs PBL

PBL - focuses on **student-directed** objective setting, with minimal tutor direction and pre-learning

CBL - provides students with a **more structured** and **faculty-directed** approach to their future independent learning

- students given resources ahead of time to familiarize them with the terminology and content of the case
- tutors assist in directing students to educational resources and provide more guidance in the tutorial

For more about the role of CBL in the Foundations Curriculum and how to prepare for your sessions see:

<https://meded.temertymedicine.utoronto.ca/sites/default/files/assets/resource/document/cbl-tutor-primer-2023-revised-27july2023.pdf>

Engaging student in CBL – Do's and Don'ts

Build Community

Introduce yourself and have students introduce themselves

- “Hi, I’m _____ and my pronouns are _____.”

Icebreakers

- Show and tell: Where were you when you found out you got into med school?
- Two truths and a lie
- Tell us about the last photo you took

Discuss Expectations

Students should be **actively** contributing to the group learning experience... **listening and participating**, and should not be using computers or phones for activities unrelated to CBL

Turn off notifications to minimize distractions

Engage Students

- Engage students early and often
- Call on individuals or groups
- Reward student for building on the points of others
- Be enthusiastic
- Ask good questions

Encourage Active Learning and Productive Struggle

- Engage students in **guided discovery** and ask probing questions that encourage problem solving and **understanding**, instead of providing direct instruction
- Maximize **learning in the longer term** versus of performance in the shorter term

Promote Cognitive Integration

Cognitive Integration involves looking at basic and clinical sciences in an integrated and causal way

Encourage students to make connections to the patient case, and guide them in understanding how basic science applies to clinical situations

For practical strategies on how to promote it, see:

https://ofd.med.utoronto.ca/sites/default/files/assets/resource/document/18_CBL_%20Cognitive_Integration_%20Questions.pdf

Use Contextual Variation

Learners are exposed to the **same concept**
in **different contexts**

Ask, “what if...

For practical strategies on how to use
meaningful contextual variation, see:

<https://ofd.med.utoronto.ca/resources/using-meaningful-contextual-variation-enhance-understanding-and-promote-learning-transfer>

Destigmatize Failure

Identify and clarify any misconceptions, both from the verbal answers shared in the group session and the written responses you have reviewed.

Value the incorrect answer

- highlight part of answer that is correct or when might be right
- use it to get to the correct answer
- thank students for raising common misconceptions

Don't – Shame student or disregard the incorrect answer

Check for Understanding

Ask students for the rationale for their answers and challenge their reasoning to probe for understanding. Having the right answer does not mean they have a good understanding.

Ask, “does everyone understand? Does everyone understand why?”

Don't - Ask impossible or “read my mind” questions

Encourage Participation

Create a supportive and safe environment to allow everyone to feel comfortable participating. Validate student responses, gently correct misconceptions. Provide positive and supportive feedback (“Yes, AND...”)

DON'T – Patronize or silence students

Have fun!

- Take a break
- Play music
- Take it outside with food
- Talk about your career, wellness, etc.



Artwork by Katerina Mertikas

CBL General Structure

Teaching plan	Estimated time
Orientation and Setting the Stage	5-10 minutes
Summary of the Virtual Patient Case	5 minutes
Discussion of Assignment Questions	90 minutes
“What if” scenarios	20 minutes
Closing	5-10 minutes

Where to find CBL and Course Materials?

The screenshot shows a web browser window with the URL `meded.utoronto.ca/medicine/`. The page header includes the University of Toronto logo and the text "TEMERTY FACULTY OF MEDICINE UNIVERSITY OF TORONTO". The user is logged in as "Robert Goldberg" with a dropdown menu showing "MD Program - faculty" and a "Logout" button. A yellow "Student Assistance" button is also visible.

The main navigation menu includes: [DASHBOARD](#) (underlined), [COURSES](#), [CURRICULUM](#), and [ADMIN](#).

The page content is titled "/ Faculty Dashboard" and features several sections:

- My Bookmarks:** A section with the text "You can bookmark this page" and a blue "Add Bookmark" button.
- UofT Elentra Message Center:** A yellow box containing the text "UofT Elentra Message Center" and "The Message Center is currently empty." with a "Previously Read Messages" button.
- My Communities:** A section listing "Foundations Tutor" and "Mississauga Academy of Medicine".

A "Get Help!" button is located in the bottom right corner of the page content. A system tray at the bottom shows the date and time as "11:10 AM 8/12/2022" and the language as "ENG US".

/ Courses / View Courses

My Bookmarks

You can bookmark this page

Add Bookmark

Display Style

- Learner View
- Director View

My Communities

- Foundations Tutor
- Mississauga Academy of Medicine

Course Listing

Course Quick Select:

-- Select a Course --

Year 1

- MED100H - Introduction to Medicine
- MED110Y - Concepts, Patients and Communities - 1
- MED120H - Concepts, Patients and Communities - 1
- MED130H - Concepts, Patients and Communities - 2

Year 2

- MED200H - Concepts, Patients and Communities - 3
- MED210H - Life Cycle
- MED220H - Complexity and Chronicity
- MED200H-A - Adapted Concepts, Patients and Communities 3

Year 3

- TTC310Y - Transition to Clerkship
- ANS310Y - Anesthesia
- DER310Y - Dermatology
- EMR310Y - Emergency Medicine

Academic Year 2022-23 - .

My Bookmarks
You can bookmark this page
Add Bookmark

- Course Navigation
- Home Page
 - Administration
 - Contacts
 - Urgent/Crisis
 - Policies & Expectations
 - Attendance / Reporting Absences
 - Assessment
 - Technology
 - Evaluation
 - Course Description
 - Course Materials
 - Course Videos
 - Integrated Clinical Experience
 - ICE: CAP 1
 - ICE: Clinical Skills 1
 - ICE: Health in Community 1
 - Health Science Research (HSR)
 - Portfolio
 - Announcements
 - Library Resources
 - Discussion Board
 - 2T5 Modules
 - Course Videos
 - Course Videos 3

Concepts, Patients, and Communities - 1

Home Page

Edit Page

Welcome to CPC 1 2022-23!

The CPC1 Course Director, Robert Goldberg, will be available for office hours. Please click [HERE](#) to view the available dates and to book a meeting.

Important: We're moving to a new video platform! The new platform requires your enrolment in order to access lecture recordings starting in January!

Make sure you get enrolled before the course continues in January. Please click the following: [Course Videos](#). That's it! Clicking *Course Videos* = enrolment.

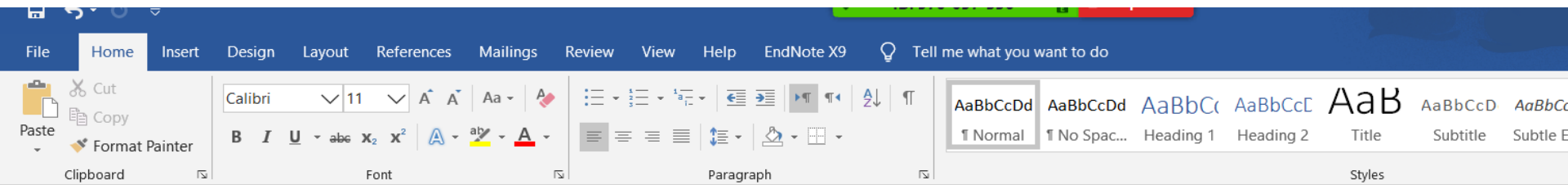
Please do this soon to avoid delaying your access to the recordings in the new year. Until January, the link will be empty; its purpose right now is to facilitate your enrolment to the new platform. After you enroll, you will be able (after the new year) to access the recordings from the Course Videos link or you can go to a Learning Event and access it from there.

Downloading Lecture Recordings

The new video delivery platform will allow you to download a file to view offline on any device (although some recordings may not be downloadable). The MD Program takes the intellectual property of its presenters very seriously, and this is a reminder that recordings and videos in Elentra are for the use of students in the Temerty Faculty of Medicine MD Program only and are never to be reproduced, shared with anyone, or reposted anywhere without the express written permission of the Temerty Faculty of Medicine MD Program.

Use a board

- Whiteboard, google doc, google Jamboard, etc.
- Set the stage: encourage your students to use the board at the start of the session
 - Stratify questions: “Confident, Confused, Curious”
- Collate a selection of individual or group student responses and display to your group
- Collate a series of key slides from modules and lectures
 - Display and discuss to highlight key concepts!



(Group) Q4. What are the two recommended tools for assessing 10-year fracture risk? How and why are they used?

CAROC (Canadian Association of Radiologists and Osteoporosis)

- Uses femoral neck T score and age to classify as low, moderate, or high risk of fracture
- There are separate charts for men and women
- Cannot use this tool if an individual is under 50 or over 85
- The patient is moved to the next risk category if they have had a fragility fracture after the age of 40 or have a history of prolonged corticosteroid use
- If the patient has a T score of less than -2.5 at any site, the patient is automatically at moderate risk
- If the patient has experienced a prior hip or vertebral fragility fracture or more than 1 non-vertebral fragility fracture, they are automatically at high risk
- At low risk, pharmacologic therapy is not indicated
- At moderate risk, risks/benefits should be discussed with patient and consider other reasons to initiate therapy
- At high risk, the patient should be treated with pharmacologic therapy

FRAX (fracture risk assessment tool)

- Specific for Canada
- More accurate than CAROC, especially when individuals have 1+ risk factors for fracture
- The questionnaire includes: age, sex, weight, height, femoral neck T score

Ask Questions about the Questions

- Incorporate additional opportunities for interactivity every 5-15 minutes
- Why, what if?
- Assessment for learning (nonjudgmental)
- Be enthusiastic!

Model Clinical Decision Making

Guide the student discussion to help students achieve an appropriate level of understanding. If needed, share your approach to how you would think about the answer

- How would you organize a differential diagnosis and arrive at a diagnosis?
- What are the pertinent positives and negatives that inform the differential?

Share real clinical examples.

Stick to the Program!

Do – Reassure students that you have covered all the material in the tutor guide. They should leave feeling prepared for their assessments and future clinical practice future.

Don't – Go rogue or allow students to go on tangents

Debrief

- Students are experiencing uncertainty and anxiety
- Acknowledge and identify how you can support them
- Offer another way for you to potentially connect with students if desired over the week

Evaluations



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Student Evaluation of Tutor Case-Based Learning (CBL) Tutoring Skills

The MD Program takes evaluation of teachers seriously and relies on student feedback to continually improve the curriculum. Providing honest, objective and constructive feedback is a key professional obligation of learners. Please use the following form to evaluate the tutoring skills of your teacher.

Disclosing Mistreatment

If you have experienced or witnessed student mistreatment or a major incident of unprofessionalism in the MD Program learning environment or the MD Program community, please use the following link to learn more about our supports and resources (including a confidential online tool designed to allow medical students at the University of Toronto to report such events): <https://md.utoronto.ca/student-mistreatment>

What was the duration of your encounter with this teacher?

- I had no contact with this teacher
 1-3 sessions
 4-7 sessions
 8 or more sessions

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The tutor supported us in exploring basic science concepts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The tutor supported us in exploring psychosocial concepts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The tutor supported us in making connections between basic science and clinical concepts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The tutor supported our understanding and reasoning process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The tutor supported a safe and inclusive learning environment (e.g., non-threatening, supportive, encouraging)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Unsatisfactory Poor Adequate Good Excellent N/A

My overall assessment of this tutor is:

Please use this additional space to clarify or to make further comments (especially if you have selected a rating of Strongly Disagree/Unsatisfactory or Disagree/Poor for any of the above criteria):

Suggestions from Students

- Align concepts with lectures
- Make confusing concepts clear
- Bring in visuals, external resources
- Apply concepts to real life situations
- Move beyond having students read prepared answers only
 - Engage the entire group with further questions that encourage critical thinking
- Try to get to know student names
- Finish on time

Creating Safer Spaces

- Effective teaching and learning environments encourage active learning and development of adaptive expertise
- Effective learning requires safer, inclusive environments

Creating Safer Spaces

- We must create psychologically safe environments
- A psychologically safe environment is one where learners feel comfortable asking questions, taking risks, making mistakes, and asking for help. They feel respected, and that their efforts and skills are valued (Edmonson, 1999).
- A supportive and safe environment **MUST** be created to allow students to feel comfortable participating. Encourage critical thinking while validating student responses, gently correcting misconceptions, and avoiding shaming.

Creating Safer, More Inclusive Spaces

- Invite participation through discussion and dialogue
- Respond through validation and destigmatize failure
- Use inclusive language
- Address unsafe situations involving inappropriate language, comments, or behaviour
- Be trauma informed
- Don't avoid discomfort – support it

Sharing Challenges, Strategies and Successes

Adventures in Teaching!

- Responding to an Incorrect Answer and Maintaining a Safe Learning Space
- Silence – Learners are Hesitant to Engage

<https://meded.temertymedicine.utoronto.ca/sites/default/files/assets/resource/document/21inclusivevirtuallearningenvironmentrevised12jan21.pdf>

Resources

MD Program Office of Faculty
Development

<https://meded.temertymedicine.utoronto.ca/cbl-tutors>

Questions?

E-mail us

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robert.goldberg@utoronto.ca

Thank you!

