

Strategies for Facilitating Case Based Learning



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Artwork by Katerina Mertikas



MD Program
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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
- Your role as a CBL tutor and the student's role is in CBL
- General strategies for engaging students in active learning including asking good questions

Introductions



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Introduce Yourself

(Use the Chat or Raise your Hand)

Have you ever facilitated CBL?

- a) No, this is my first time
- b) Yes, for the last 1-5 years
- c) Yes, for over 5 years

Your Experience

(Use the Chat or Jump In)

1. What was your best experience with CBL?
(either as a tutor or student)?
2. What advice would you offer to a fellow
tutor?

What is CBL?

- Involves the use of learning activities based on patient cases and real-life situations
- Basic, social, and clinical sciences are integrated with clinical presentations and conditions

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 are given resources ahead of time to introduce 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>

Student-Led CBL Day 1 session

- Students explore the case together without a faculty
- They complete the group questions embedded within the case and submit one collective response to the tutor by e-mail.
- The tutor should review the responses to have a sense of misconceptions and areas to focus on during the second session.
- The tutor is not required to assess or provide feedback to the students on the assignment during the week.
- Before the second CBL session, students are also required to complete the additional individual questions



Faculty-Guided CBL Day 2 session

- 2.5-hour session
- Review answers to all the group and individual assignment questions as outlined in their tutor guide (please stick to the tutor guide for consistency between tutors)
- Introduce several new mini scenarios called “What if questions” provided at the end of the tutor guide. These are new questions the students have not
- Ensure students relate their discussions to the patient in the Virtual patient case
- Complete a professionalism competency evaluation for each student

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

Pacing



Where to find CBL and Course Materials?

The screenshot displays the UofT Elentra Faculty Dashboard. At the top, the navigation bar includes the UofT logo, the user's name 'Robert Goldberg', the current program 'MD Program - faculty', and a 'Logout' button. A 'Student Assistance' link is also visible. Below the navigation bar, the main menu features 'DASHBOARD' (highlighted), 'COURSES', 'CURRICULUM', and 'ADMIN'. The page content is titled '/ Faculty Dashboard' and includes sections for 'My Bookmarks' (with an 'Add Bookmark' button), 'My Communities' (listing 'Foundations Tutor' and 'Mississauga Academy of Medicine'), and a 'UofT Elentra Message Center' (noting it is currently empty with a 'Previously Read Messages' button). A 'Get Help!' notification is present in the bottom right corner, and the Windows taskbar at the bottom shows the date as 8/12/2022 and the time as 11:10 AM.

/ 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
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 - Urgent/Crisis
 - Policies & Expectations
 - Attendance / Reporting Absences
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 - 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.

Back to School

It's the first day of CBL!

The students don't appear as excited as you and respond to your question with silence.

One student finally offers an incorrect answer.

Can anyone relate?

How does this make you feel?

What might you say/do?



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

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

Psychological Safety is Key

- 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.

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

Ask, “why...”

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>

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

Create More Accountable Spaces

- Set the stage in cultural humility and by prioritizing safety
- Invite participation through both discussion and dialogue
- Use inclusive language
- Address unsafe situations involving inappropriate language, comments, or behaviour
- Be trauma informed
- Don't avoid discomfort – support it

For more on Accountable Spaces attend part 2 of this webinar series and see: <https://medium.com/@elise.k.ahen/safe-and-brave-spaces-dont-work-and-what-you-can-do-instead-f265aa339aff>

Back to our Case

The students are finally getting into the case.

One student in particular seems to be interrupting frequently and going off topic by asking "interesting" questions.

Can you relate?

What might you say/do?

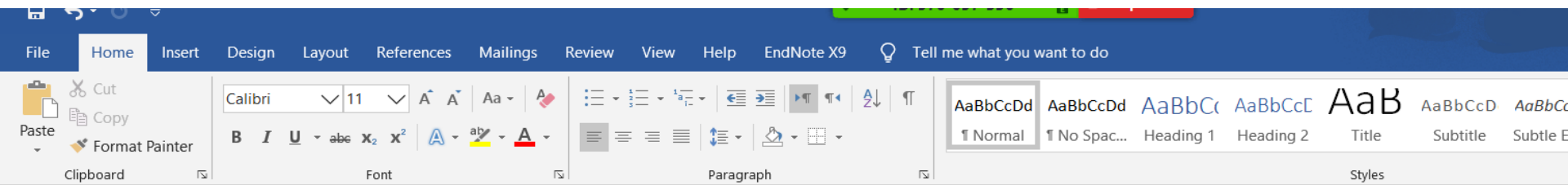
Finding Balance



More Strategies to Facilitate Learning and Engagement

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.

Vary Your Strategies

- Include visuals – create or display, play videos
- Assessment for learning – ask true/false, MCQs
- Provide clinical examples, tell stories
- Situate the student in the scenario
 - Your friend calls you....
 - Ask a question as if you were a patient.
“Dr _____, what do you think?”

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

Have fun!

- Take a break
- Play music
- Bring food
- Talk about your career, wellness, sports, etc.



Artwork by Katerina Mertikas

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

Teacher 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):

Professionalism

- Professionalism is a core competency and should be treated as such
- Most often learned through the informal curriculum (i.e. via observation)
- We must identify both exemplary behaviours and those that should be modified
- Assessments can be completed at any time, not just at the end of the rotation

New form

- Incorporates 6 domains
- Better to use “unable to assess” than to give 5s across
- Comments are most useful

Sharing Challenges, Strategies and Successes



Resources

MD Program Office of Faculty Development:

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

Your Academy Administrator, Course Director, Week Lead

Questions?

E-mail us

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Thank you!

