MD Program
UNIVERSITY OF TORONTO

Office of Faculty Development

A Primer for Case-Based Learning (CBL) tutors

For a comprehensive online learning resource on CBL, its role of in the Foundations Curriculum and the role of the CBL tutor, see the CBL tutor e-Module: emodules.med.utoronto.ca/DCemodules/CBLforTutors/story.html

What is CBL?

Case-based learning (CBL) involves learning activities based on patient cases and real-life situation. Basic, social, and clinical sciences are studied in relation to the case, are integrated with clinical presentations and conditions.[1]

What are the major differences between CBL & PBL (Problem-Based Learning)?

In CBL, students are given resources ahead of time to familiarize them with the terminology and content of the case. Tutors play a more directive role than in PBL. They assist in directing students to educational resources and provide more guidance in the tutorial.

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.[2]

What is the role of CBL in the Foundations Curriculum?

CBL is a core teaching and learning strategy in the Foundations Curriculum. It uses a different virtual patient case each week of the curriculum designed to provide students with a clinical context through which to learn, apply and integrate knowledge.

Students receive predefined learning objectives and assignment questions to guide their learning around the case. They are also provided with learning materials that have been preselected and designed for them. The students' learning through this CBL case is supported by other learning activities scheduled during the week (e.g., lectures, e-modules, videos, seminars, etc.).

Each activity and resource has been designed and organized to allow students to engage in guided discovery. The goal is to create a learning environment that fosters "learning for understanding" through exploration and explanations and also that brings together related content and concepts. The goal is for students to apply foundational knowledge to clinical situations from the start of their medical education.[3]

There are two CBL sessions per week. First, groups of 8-10 students come together on their own to explore the case and complete some questions together. The same group meets a few days later for a second session and discussion of group and individual questions based on the same case, this time facilitated by a faculty CBL tutor.

Supporting Resources

To access these resources and additional references to support your teaching, visit:

ofd.med.utoronto.ca

What happens during the student-led CBL Day 1 session?

During this 2.5-hour session, the group should explore the case together without a faculty. During this time students 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. However, 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** that are embedded in the case in preparation for the faculty-guided CBL session.

What happens during the faculty-guided CBL Day 2 session?

This 2.5-hour session provides an opportunity for students to discuss their **answers to all assignment questions** and **consolidate** their learning. The tutor will be provided a thorough **tutor guide** useful in facilitating the session.

Key Tasks of the CBL Tutor During CBL Day 2 Session:

1. Review with the group 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).
2. 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 seen that ask them to apply their understanding of a concept they have previously learned or discussed to a new clinical context. This is called contextual variation, it fosters transfer of knowledge. Please leave enough time in the tutorial for these questions.
3. Create an interactive discussion with the goal of learning for understanding and ability to apply knowledge to the patient case. Some suggestion on how to engage students include:
   - Create a psychologically safe environment where students feel comfortable asking questions, taking risks, making mistakes and asking for help.[4]
   - Identify and clarify any misconceptions. Value an incorrect answer, making it clear what is incorrect about it and how it can be used to get to the correct answer.
   - Check for understanding. Ask students for their rationale for their answers and challenge their reasoning to probe for their understanding ask stimulating questions (samples may be provided in the tutor guide).
   - Model clinical decision making. If needed, share your approach and how you would think about the answer.
   - Ask stimulating questions that encourage students to make connections between basic sciences and clinical scenarios (why?) and to apply the same concept in different contexts (what if?). See links with more strategies on how to promote cognitive integration and contextual variation.
4. Ensure students relate their discussions to the patient in the Virtual patient case. The cases are usually set up with the students being a medical student working with a preceptor.
5. Let the students know that the expectation is for active and respectful listening and participation. Technology should support learning and not provide a distraction.

Supporting Resources

Sample CBL Day 2 Tutorial Teaching Plan

Guided Learning in CBL

Creating a psychologically safe learning environment

Using Meaningful Contextual Variation to Enhance Understanding and Promote Learning Transfer

CBL Tutor Teaching Tool - Cognitive Integration Questions

Virtual tour of the "Virtual Patient e-module"

6. Complete a professionalism competency evaluation for each student if prompted via an email through MEDSIS. These are done periodically during each course by the tutor who has led the greatest number of tutorials during the interval period.

Please note: Students are required to attend CBL 1 and CBL 2 tutorials and to be prepared to respond to all questions in the case.

How can CBL tutors prepare for their CBL sessions?

1.	Using your UtorID, locate the CBL case for the week (Virtual patient E-module) and Tutor Guide on the Learning Management System – Elentra
2.	Be familiar with the virtual patient case. Before the tutorial review the Virtual Patient e-module to familiarize yourself with the clinical context of the discussion. See supporting resources for a short video describing the virtual patient e-module.
3.	Review the Tutor Guide that is provided for each case, to prepare to discuss **group and individual assignment** questions and the **'What if…" scenario** questions (these the students have not seen before). These questions will form the basis of your discussion with the group. The guide also has additional supplemental content resources that you may find useful as you prepare for the CBL session. **Please do not share the guide with students.**
4.	Review the student's response to the group assignment questions that they will email to you at the end of their CBL Day 1 session. This is only for your information to get a sense what they did on CBL Day 1. You do not have to mark these.
5.	Identify content areas that you are not an expert in and if you feel you require additional knowledge to support the students, proactively approach the identified **Faculty Lead** who designed the case. **Note: Tutors are not expected to know absolutely everything about the learning content for the case. Part of their role is to model how clinicians deal with uncertainty and demonstrate life-long learning skills.**
6.	Think about creative ways to make **links between basic science concepts and clinical scenarios** that students may encounter. See supporting resources on Cognitive Integration as an example.

References:

1. Thistlethwaite JE, et. al. 2012. The effectiveness of case-based learning in health professions education: A BEME systematic review. Medical Teacher 34; e421-e444.
2. Srinivasan M, et. al. 2007. Comparing problem-based learning with case-based learning: Effects of a major curricular shift at two institutions. Academic Medicine 82:74-82.
3. Kulasegaram E. et. al. 2013. Cognition before curriculum: Rethinking the integration of basic science and clinical learning. Academic Medicine 88(10): 1578-85.
4. Edmondson A. 1999. Psychological Safety and Learning Behavior in Work Teams. Administrative Science Quarterly 44(2): 350-383.