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) in health professional education, involves the use of learning activities commonly based on patient cases. Basic, social, and clinical sciences are studied in relation to the case, are integrated with clinical presentations and conditions, and student learning is, therefore, associated with real-life situations."[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. We see CBL as initially providing students with a more structured and faculty-directed approach to their future independent learning.

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 realistic virtual patient case (on line case) which has been uniquely designed for each week of the curriculum with the goal of providing students with a clinical context in which to learn, apply and integrate medical 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 teaching modalities scheduled during the week (e.g., lectures, e-modules, videos, seminars, etc.).

Each learning activity and learning resource has been designed and organized to allow students to engage in discovery learning and to create a learning environment that fosters "learning for understanding" through exploration and explanations and also that brings together related content from the different domains of medical knowledge. The goal is for students to understand and integrate this knowledge and apply it to clinical situations from the start of their medical education.[2]

Supporting Resources

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

ofd.med.utoronto.ca

Discovery Learning (Video)

There are two CBL sessions per week. Groups of 8-10 students conduct the first session on their own (Student-led CBL Day 1). The same group meets a few days later for a second session of the same case, this time facilitated by a faculty CBL tutor (Faculty-led CBL Day 2).

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. To enable a deep approach to learning, it is important for them to go through the case and associated materials without guidance from faculty. During CBL Day 1 session, students then together complete the **group questions** embedded within the case and at the end of CBL Day 1 session submit one collective response to the tutor by e-mail. The tutor reviews the responses to gain a general idea how the students responded and may use this understanding in CBL Day 1 tutorial, but is not required to assess, nor provide feedback to the students on the assignment during the week. Before the second CBL session, students are required to answer 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 around the specific patient case. The tutor will be provided a thorough **case guide** that they are asked to use to facilitate 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 case tutor guide (please stick to the case guide for consistency between tutors).
2. Introduce several new mini scenarios called "What if questions" provided at the end of the case 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 engaging discussion with the goal of learning for understanding and ability to apply knowledge to the patient case. Some suggestion on how:
   - ask students for their rationale for their answers and challenge their reasoning to probe for their understanding
   - if needed guide the student discussion for the group to achieve appropriate level of understanding (more of a guide on the side) but if needed share your approach by talking out loud how you would think about the answer
   - identify and clarify any misconceptions
   - ask stimulating questions (samples may be provided in the case guide)
4. Ensure students relate their discussions to the patient in the Virtual patient case. The cases are usually set up as "bed side teaching" with the students being a medical clerk working with a preceptor. Students should come to CBL Day 2 tutorial being familiar with all the content in the virtual patient case.
5. Foster a learning environment where there is balanced group participation by all students. At the beginning of the tutorial, clarify this as an expectation.

Supporting Resources

Sample CBL Day 2 Tutorial Teaching Plan

Using Meaningful Contextual Variation to Enhance Understanding and Promote Learning Transfer

Guided Learning in CBL

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 thought 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 Case Guide on the Learning Management System – Elentra
2	Be familiar with the virtual patient case. Before the tutorial do a run through of the Virtual Patient emodule. It makes a difference in your ability to facilitate the discussion if you are familiar with the clinical context of the discussion. See supporting resources for a short video describing the virtual patient e-module.
3	Review the Tutor CBL Case 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 for yourself the students 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 handle 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. Kulasegaram E. et. al. 2013. Cognition before curriculum: Rethinking the integration of basic science and clinical learning. Academic Medicine 88(10): 1578-85.
3. 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.

education: A BEME systematic review. Medical Teacher 34; e421-e444.

Supporting Resources

Assessing Students in CBL

Assessing Student Professionalism in the MD Program

Accessing & Using your teaching materials

Using Meaningful Contextual Variation to Enhance Understanding and Promote Learning Transfer

CBL Tutor Teaching Tool - Cognitive Integration Questions