



CAME Voice/Voix

Cards: a novel approach to practicing clinical problem solving

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Clinical problem solving is a key skill for medical students and one that benefits from structured and regular practice. While our students have plenty of bedside opportunity to practice clinical problem solving we wanted to come up with a way to extend this to be able to practice these skills whenever and wherever they were. That's how we came up with 'Cards', a simple, adaptable way of presenting interactive clinical problem solving practice exercises.

We have successfully built and deployed Cards at the University of Calgary and we have over 190 cards in topics including Abnormal Liver Enzymes, Hepatitis, and Well Elderly Patients. Not only have they been used for independent self-study, cards have also been used in flipped classroom workshops and curriculum review sessions.

Cards has been designed to embody robust cognitive psychology principles. For instance, knowledge acquisition, which relies on time spent in an educational activity but also cognitive load, is enhanced by students' ability to control the amount of material learned in a given session. Furthermore, knowledge retention requires dispersed learning and "test-retesting", both of which are supported by Cards.

Cards was a key part of the Flipped Classroom we recently introduced for the teaching of Hepatology in our UME curriculum. Rather than typical lectures, the students viewed brief podcasts on various aspects of liver disease before coming to the classroom to do their "homework". In these workshops they worked through Cards cases in small groups of 2 or 3 with faculty on hand as facilitators. Faculty had access to real-time reporting on how the students were performing on the simulated cases. If it was clear that the majority of students were struggling on an important concept, the workshop could be interrupted for a brief lecture to clarify that teaching point. Furthermore, the ability to revisit a Cards case allowed for their repeated use by the students throughout the Course, especially in the week leading up to their summative exam. To that end, Cards was an integral to the success of our Flipped Classroom.

Cards allows students to play and replay cases online anywhere and anytime. Authors benefit through the real-time statistics on their students' use of cards. We are happy to share Cards using the link below.

You can give Cards a try here: <http://cards.ucalgary.ca>