



CAME Voice/Voix

Concordance-of-Perception/Visual-Fields-Interpretation Training: Innovative Ways to Get Ready for Professional Practice

Over the years, research on clinical reasoning(1), and particularly on script theory, has led to practical assessments of clinical reasoning through script concordance. The contribution of informatics has, on the other hand, allowed for the creation of online training tools that are built on the following principles:

- (1) authentic simulation, (2) cognitive tasks that mirror those of clinicians within their practice, (3) immediate feedback by a teacher or panel of experts in the field, (4) key messages to remember.

There are three different types of online training tools based upon the level of concordance of participants according to a reference panel. (1) **Script concordance** is used to train or assess the accomplishment of tasks that require reasoning within the professions(2). (2) **Concordance of judgment** is used to train on themes such as professionalism or ethics(3). **Concordance of perception** is used to train or assess the detection and interpretation of visual anomalies (*in medical imaging, dermatology, hematology, etc.*).

Concordance of perception training, the most recent tool, is actually used in the respiratory class at Université de Montréal. Each student must identify and outline lesions on X-ray images that appear on the screen of their own computer, and provide a semiologic interpretation according to their perception. As soon as these two tasks are complete for each image, immediate feedback from the teacher appears on the screen. The student can see the lesion marks perceived by the teacher, the semiologic interpretations of the teacher, as well as useful tips on the detection and interpretation of such lesions.

This innovation in pedagogy will be introduced this Fall in the 2nd year MD curriculum of the 300-student cohort. This is a formative activity for this first year of implementation. The results will be studied carefully (perception of students, identification challenges, delay in identifying anomalies,...) in order to prepare the introduction of this tool in other fields in which visual anomalies must be detected. The tool can be adapted to develop the perception/interpretation skills of residents or practicing doctors by presenting more complex cases where many experts can serve as a reference and provide advice.



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Notes:

- *The creation of these computer tools for concordance training are a collaborative effort by Bernard Charlin, full professor, Université de Montréal, and Driss Kazitani, physician (Algiers) and computer specialist (Cie Émerge).*

- *The innovations in pedagogy by concordance of perception were implemented by Kate Alexander, radiologist, Faculty of veterinary medicine, Université de Montréal, and Chantal Lafond, respirologist, Faculty of medicine, Université de Montréal.*

Bibliography:

1. Charlin B, Lubarsky S, Millette B, Crevier F, Audétat MC, Charbonneau A, Caire Fon N, Hoff L and Bourdy C. Clinical reasoning processes: unravelling complexity through graphical representation. *Medical Education*, 2012 ; 46 : 454–463.
2. Lubarsky S, Dory V, Duggan P, Gagnon R, Charlin B. Script concordance testing: From theory to practice: AMEE Guide No.75. *Medical teacher*. 2013 ; 35(3) : 184-193
3. Foucault A, Dubé S, Fernandez N, Gagnon R, Charlin B. Learning Medical Professionalism with the on-line Concordance-of-Judgment Learning Tool (CJLT): A pilot study. *Medical Teacher*, Submitted, August 2014.

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