

Can clinical reasoning skills be enhanced by curricular design change?

Purpose: Clinical reasoning skills are essential to the practice of medicine, but difficult to assess in learners. After a curriculum overhaul in 2018, this program's faculty hypothesized that the new clinical presentation-based approach would enhance acquisition of clinical reasoning skills. To facilitate a reliable assessment of clinical reasoning, a newer assessment modality of script concordance testing (SCT) was researched. Script concordance testing has been developed and validated in several studies.^{3,4,5,6} SCT is based on the theory that clinical reasoning develops as pattern recognition (scripts) when learners are presented with clinical cases. The scripts are used to apply key features of a patient's clinical presentation to confirm or rule out hypotheses in the differential diagnosis. The learner's decision to increase or decrease the probability of a differential diagnosis being the correct diagnosis can be quantified and compared to the decision-making process of a panel of experienced clinicians.² This comparison provides a measure of the learner's clinical reasoning ability and allows for comparison in clinical reasoning pre- and post- curricular change.

Objectives:

1. Describe script concordance testing as an assessment measure of clinical reasoning.
2. Explain clinical presentation-based physician assistant didactic curriculum
3. Explain the impact of clinical presentation-based didactic curriculum on the development of clinical reasoning skills.

Methods: A 25-case SCT assessment tool was constructed with three assessment items per case. An expert panel of 12 members, comprised of physicians and physician assistants, completed the assessment tool, which was used to create an SCT scoring rubric. The assessment tool was administered to the final cohort of the program's prior curriculum three months before program completion. 41 learners completed the assessment. The same assessment was administered to the first cohort of the new curriculum three months before program completion. 36 learners completed the assessment.

Results: The results of the SCT assessment of each cohort was analyzed using the University of Montreal Script Concordance Calculator to calculate a clinical reasoning score for each learner. The clinical reasoning scores of the two cohorts were analyzed using an independent t-test. There was not a significant difference in clinical reasoning abilities between the two cohorts.

Conclusions: This study demonstrates that differences in didactic physician assistant education may not enhance the clinical reasoning of learners. Other factors such as critical thinking skills, and supervised clinical experiences likely play a substantial role in clinical reasoning development. Limitations of this study include a small number of learners, and a larger sample size may detect differences.