



Influence of Prior Clinical Experience on Illness Script Competency

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INTRODUCTION

Illness scripts are effective as a form of training medical students and other students in healthcare, meaning that they can serve as an efficacious tool in medical education for developing skills necessary to be a proficient diagnostician. Clinicians use illness scripts subconsciously in order to rule in and out differential diagnoses, and so teaching students how to produce their own reliable, practiced illness scripts is fruitful (Chamberland et al. 2020). Broadly, illness scripts improve students' clinical reasoning skills by challenging them to explain precisely why a particular script does or does not fit a patient's narrative history of present illness, and identify what aspects or incidents of a patient encounter triggered the mobilization of illness scripts in the students' minds (Lubarsky et al. 2015). Early introduction to clinical thinking improves elicitation of metacognitive tools like illness scripts, with this suggestion commonly informing the design of medical school curricula.

Physicians are unique in their reasoning skills as healthcare professionals. One purpose of medical school is arguably to train students to think like a physician by encouraging the development of clinical reasoning (Henrikus et al 2018). However, this early introduction may not serve as each student's *initial* introduction to clinical reasoning, or even illness scripts, which suggests that not all medical students are blank slates (Schmidt and Rikers 2007). Medical students often have extensive and variable pre-matriculation experience in clinical settings, with differing degrees of exposure to and active participation in diagnostics. This knowledge of medical students' background suggests that clinical skills curricula may underestimate the reasoning skills and pattern recognition of matriculating students. Crucial to understanding the pace and personalization of medical education as it relates to clinical reasoning is the answer to the question *To what degree does prior exposure to clinical reasoning influence the development of illness scripts?*

Variable exposure to clinical reasoning will be qualified by three classifications: (1) limited and/or passive exposure, (2) active exposure, (3) engagement in and execution of clinical reasoning. With escalating degrees of exposure, consideration should be made for amendments to medical curricula, and whether that would be beneficial (or harmful) to a particular subset of students with qualifying backgrounds.

The central aim of this inquiry is to serve the student population of WSUSOM by presenting findings to Clinical Skills course directors in hopes of course improvement. It is possible to offer expedited clinical skills curricula to more experienced students. This project serves to evaluate this possibility for adapting course design based on clinical reasoning capabilities from pre-matriculation experience.

METHODS

Clinical reasoning will be evaluated by using the quantitative quasi-experimental technique of pre/post-test in order to gather information related to the progress of students' clinical skills over time, employing qualitative grounded theory.

In the *pre-survey*, MS1 students are asked to first classify their experience as "Class 1: passive exposure," "Class 2: active exposure," or "Class 3: engagement in and execution of illness scripts." They are then asked to describe their experience, confidence in clinical skills and draft their own illness script in order to measure their reasoning abilities. The data has been coded by clinical experience classification and further data analysis is applied as results continue to be collected (the survey remains live).

MS1 students are not expected, at this point in their education, to have knowledge of a complete reported assessment, differential diagnoses (Ddx) and plan. However, an evaluation of baseline clinical reasoning skills can be conducted based on their ability to complete this illness script task with their existing knowledge.

Question seven in this survey is presented as follows:

Case: A 64 year old male patient comes to the emergency department with chest pain that began 30 minutes ago, diaphoresis and shortness of breath. Provide a differential diagnosis and plan of care, including both testing and treatment (i.e. what else would you like to know and do for the patient?).

Assessment score	0: no assessment 1: incomplete assessment 2: complete assessment
Ddx score	0: no differential 1: differential withOUT pertinent positives and/or negatives 2: differential WITH pertinent positives and/or negatives
Plan score	0: no plan 1: plan only includes diagnostic plan OR treatment plan 2: plan includes both diagnostic AND treatment plan

Table 1. Grading system for illness script scores of question seven

This grading system was designed based on the standards of the Clinical Skills MS1 assessment rubrics. Scores were advised by the rubrics' descriptions of an appropriate and correct assessment, Ddx and plan; model notes written by the course director were used as samples of a score 2 for each category.



Scan QR code to the left with your device's camera in order to access the survey which is still live to be completed by first year medical students at WSUSOM.

RESULTS

Of the 39 recorded responses thus far, average scores of each parameter by each classification were calculated.

		Average Score			
		Assessment Score (Out of 2)	Ddx Score (Out of 2)	Plan Score (Out of 2)	Total Score (Out of 6)
Experience Classification	Class 1	0.25	0.88	1.25	3.00
	Class 2	0.00	1.13	1.67	3.93
	Class 3	0.33	1.33	1.67	5.00
	All Respondents	0.12	1.08	1.50	5.14

Table 2. Average scores of each parameter by each classification.

According to a one-way independent ANOVA test, the *p*-value is .199 in regard to assessment scores, .054 for Ddx scores, and .115 for plan scores; each are *not* significant at *p* > .05. This suggests that, from this data, there is a poor relationship between prior experience classification and illness script competency, as defined by this survey. The results of the other questions are also insignificant. This could be considered inconclusive with the amount of data that has been collected thus far but is not suggestive of an explicit correlation between exposure to clinical reasoning and illness script development.

The survey will remain open for additional responses and the results are expected to change with the additional data.

CONCLUSIONS

This project is a work in progress. The aim is to draw conclusions about the relationship between degree of pre-matriculation exposure to clinical reasoning and students' abilities to develop illness scripts. The data collected thus far suggests no relationship between clinical experience and illness script competency, meaning expedited curriculum may not be beneficial. An area of improvement, identified from the results, includes more detailed illness script questions, such as adding specificity to the expected outcome of question seven in order to acquire more consistently complete responses, regardless of correctness. Data will continue to be collected, as well as a post-survey (end of MS1 year) yet to be finalized.

References:

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