

Implementing a Virtual Patient (VP) into the Medical School Curriculum at the University of Florida (UF)

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Background/Abstract

Increasingly simulation is being integrated into medical education. We previously developed and demonstrated the feasibility of using virtual patients (VP) for teaching health professions students. Recently, we integrated a VP into "Essentials of Patient Care" a course that utilizes standardized patients (SP) to teach second year medical students at the University of Florida (UF) history and physical exam skills. In this study, we directly compare student performances when interacting with a VP versus an SP.

Methods

Through an interdisciplinary collaborative effort between UF and the Medical College of Georgia (MCG), we have developed and piloted a highly interactive VP scenario. In the virtual scenario, a life-sized VP is projected on the wall of an exam room in SP teaching and testing centers at MCG and UF. Before the virtual encounter, a student reviews patient information and is directed to take a history and develop a differential diagnosis. The virtual system includes two networked personal computers (PC's), one data projector, two USB2 web cameras to track the users head and hand movement, a tablet PC, and a microphone. The VP is programmed with specific answers and gestures in response to questions asked by students. Initial data shows the feasibility of using this as a teaching tool. With IRB approval, informed consent was obtained, to record and review the videotaped interactions during the abdominal complaint session of the second year medical school Essential of Patient Care class that takes place in the UF clinical skills center. The teaching session involves students being exposed to two timed simulated interactions with abdominal chief complaints. Exam rooms in the clinical skills center are used simultaneously in a timed fashion with standardized patients in all the rooms except the one room equipped with the virtual patient. Thirty four second year UF medical students were randomized to the VP interaction one student opted to not have their information included leaving N=thirty three. The students were pre-screened for voice training prior to the session allowing the flow of encounters to occur in the testing center simultaneously with the SP encounters. Videotapes from the students exposed to both the VP and SP are being reviewed by faculty (N=six) using a standardized checklist assessing the students ability to 1) gather key information, 2) set the agenda and 3) the level of immersion. The checklist covered if the student was observed to ask key portions of history, greeted patient, introduced self and role as well as the observers impression of

how immersed the student seemed and level of anxiety apparent by observation. No questionnaire was filled out by the student.

Preliminary Results



Table 1

Sample of Key Questions	Asked by Student in review of Video interaction	
	VP (n=33)	SP (n=33)
Description and Quality of Pain	90.9%	100%
Bowel movements	45.5%	81.8%
Family History	24.2%	48.5%
Fever	66.7%	39.4%
Past Medical History	33.3%	63.6%
Sexually active	33.3%	18.2%

Conclusions

Preliminary review of the data shows significant differences in content covered when the same group of students is exposed to VP versus SP. Based on the interpretation of the reviewer only 33.3% of students seemed to be immersed in VP versus 62.5% in the SP interaction. Technical challenges in speech recognition still remain and on review of tapes often forced speech by the student in the VP interaction. Clearly the VP is not ready for high stakes testing but may have a role as a teaching tool. Though not the focus of this study, one advantage that emerged with review of tapes that was not previously anticipated was the clear uniform feedback the VP could deliver.