Animated Demonstration of Selected ORLHNS Concepts and Surgeries: A Potential Adjunct to Learning

ABSTRACT

Objective: To create visual animated demonstrations of certain otorhinolaryngologic concepts and surgeries that can aid learning of students and ORL residents.

Methods: Several otorhinolaryngologic surgical procedures and pathophysiologic concepts were represented through two dimensional images. For every concept or procedure, a series of images was drawn and manipulated using the software Adobe Photoshop CS4. The series of images were then put into animation using the software Morpheus Photo Animation Suite v3.15.

Result: The end results were demonstrations of otorhinolaryngologic concepts and surgical procedures in movie (.AVI) format.

Conclusion: Concepts and surgeries in the field of otorhinolaryngology are usually explained or documented using texts or simple images. The generated animated demonstration of these ideas can aid in the learning of the ORL specialist.

Keywords: animation, surgical procedure demonstration, pathophysiology animated presentation

It is difficult to contest that learning a task from scratch, that is if one has no prior knowledge regarding the matter is a very overwhelming mission. However, it is believed that humans rarely try to learn from nothing. They obtain initial ideas as well as strategies on how to approach a learning problem from instructions and/or demonstrations of other humans. Upon being introduced to a concept, the process of 'learning-by-doing' follows. This step is currently considered as the most effective way to learn. After this process, the learning is further reinforced through different methods such as repetition. This is probably the reason behind why most training institutions would have a minimum requirement of completed tasks before considering one individual as competent in doing such job.

Schaal investigated how learning from demonstration can be applied in the context of reinforcement learning and concluded that reinforcement learning can theoretically profit from demonstrations. Using this concept, we aimed to create visual animated demonstrations of certain otorhinolaryngologic concepts and surgeries that can serve as a possible aid in the learning of students and ORL residents. Most concepts and procedures are explained in writing through textbooks and visual representations may potentially have a great impact on the absorption of knowledge by the learner.

This innovation did not test the actual degree of assistance that the animated representations would provide to a learner. It was solely based on the assumption that if one saw a visual representation of something explained in texts, it would be easier to comprehend.