

Toward the Development of an Integrated Preclinical Immunology Curriculum: Creating Supplemental iBooks for Year One

Amanda R. Liu, ScB and Thais P. Salazar-Mather, PhD

Warren Alpert Medical School of Brown University

Scholarly Concentration in Medical Education

Background

A solid understanding of immunology is an essential foundation for preclinical medical education. The goal of this project was to create supplemental immunology iBooks for students at Alpert Medical School that would 1) enhance learning during the first-year immunology course and 2) integrate immunology concepts into later courses in the preclinical curriculum where appropriate and needed. Our hypothesis was that students would find the iBooks to be helpful and relevant learning tools in their preclinical education.

Methods

Using the free iBooks Author program, I created three iBooks: Immunology: A Supplemental Guide, covering basic immunology; Immunology for Pathology, integrating immunology with general pathology topics; and Immunology: Clinical Topics, covering immunology in the context of autoimmunity, transplantation, and cancer. I integrated information from the lectures, textbooks, and the First Aid for the USMLE Step 1 series into the iBooks. Using Google Drawings, I created cartoon images and diagrams to accompany the text. Interactive review quizzes, made on Bookry.com, were embedded at the end of each chapter and book. All three iBooks were made available to first-year students in the class of MD 2019. Online evaluations were sent to the class after the relevant exams.

Results

In this study, 81/144 students (56%) responded to the evaluation survey for the first iBook, Immunology: A Supplemental Guide. According to the results, 48/81 respondents (59%) used the iBook at least once, whereas only 12 (15%) used an immunology textbook. According to the results, 9 of the 12 students who used a textbook used the iBook as well. All students who used the iBook said they would recommend it to students for use in the future, and 47/48 said they would use similar iBooks for other courses. Students were asked to rate the usefulness of the iBook overall on a scale of 1-5; the average rating among iBook users was 4.0, with 75% of users rating the usefulness at either a 4 (very useful) or 5 (extremely useful). In the free response comments, students reported that the iBook helped them better understand the “big picture” concepts of immunology without sacrificing important details, and they found that the iBook helped them understand immunology more than the lectures alone. They also appreciated the narrative style of writing and minimal jargon. Evaluation results for the other two iBooks were not analyzed due to low survey response.

Conclusion

The results of this project and survey suggest that students found the immunology iBook to be a useful learning tool. I did not examine the correlation between usage of this iBook and exam scores, so I could not objectively assess its efficacy. A major limitation of the iBook format is that the iBooks application is only available on Apple devices; while PDF versions of the iBooks were made available for students with Windows PC devices, the interactive features and quizzes in the iBooks were only accessible when using the iBooks application on an Apple device. Nevertheless, the positive feedback from students indicates that free applications like iBooks Author can be used to create educational materials that provide a supplement or even an alternative to traditional textbooks.