

AAI Education Committee Highlight: Teaching Tools

In 2016, the AAI Education Committee initiated a new session focused on improving immunology education: the Immunology Teaching Interest Group (ITIG). The ITIG is an informal group comprised of past speakers and attendees of the ITIG sessions, including current immunology educators spanning a range of institutions and levels. It serves as a resource for novel teaching tools and practices that can be implemented in courses to enhance immunology education. The session has grown from an audience of 20 in 2016 to more than 200 participants today. Because of the great interest in this topic, the AAI Newsletter features “Teaching Tools” articles highlighting ITIG presentations.

Using Learning Management Systems to Help Students Apply Immunologic Concepts

Michelle Swanson-Mungerson, Ph.D. Disease and Immunology course. We converted our (AAI '11)

professor of microbiology and immunology, Midwestern University, Downers Grove, IL

The application of immunological concepts is a major challenge for students. Many students memorize the details but fail to critically process the information

into a comprehensive understanding of how the immune system works. This challenge may be even more true during a pandemic, when many students are learning remotely and are isolated from natural discussions and interactions with faculty and other students.

To address this concern, we developed a “test-based learning” approach to engage medical students and reinforce important concepts in our required Infectious

approach provides the opportunity for faculty to answer questions as they arise, which allows misconceptions to be corrected immediately. Finally, this format allows the faculty to quickly review student responses and identify areas of weakness among the class. If the majority of the students miss a question, the faculty can address this quickly in the next lecture to the entire class.

Another major advantage of this approach is its adaptability. Even though we have used quiz-based learning in the context of medical school education, this format can easily be modified for fundamental immunology teaching to undergraduates and/or graduate students. Also, this approach can be used as a graded assignment or as an ungraded “knowledge check” for students to assess their understanding of the material as they study. As mentioned above, this format is flexible in that it can be done independently or in groups. More importantly, in a pandemic, this format can be used in person or remotely. Lastly, this format is not specific to one LMS program, as we have used it with both CANVAS and BLACKBOARD LMS.

Our goal as immunology educators is to help students understand immunology rather than simply memorize cell types and CD numbers. The inclusion of these cases on our LMS has been extremely helpful for our students and faculty, both before and during the pandemic. If you would like additional information, please contact me at mawns@midwestern.edu.

One question from the quiz based on hypersensitivity cases.

of immunology to cases before the exams is helpful. Another advantage is that in a small group setting, students can learn among peers. These interactions not only increase student confidence, but also invoke an important sense of community. Additionally, this