On the course’s first day, 12 student groups were presented with a writing assignment involving six immunology topics. Each subject was randomly assigned to two student groups. These were controversial issues about which scientists have multiple and competing views, forcing students to gather research articles, make sense of conflicting data, and draw conclusions. Topics included the possible use of IL-17 inhibition in rheumatoid arthritis (RA); the use of IL-2 treatment in autoimmune disease; the possible role of newly-approved baricitinib in RA; treatments for immune thrombocytopenia; justification of the high cost of Kymriah™ for acute lymphoblastic leukemia; and weighing PD-1/PD-L1 inhibitors (pembrolizumab vs. atezolizumab) for metastatic urothelial carcinoma.

While some lecture time was allocated each day explaining difficult mechanisms, approximately three-quarters of the class time was devoted to working in groups on the papers. Groups were tasked with producing a first draft that reflected contributions from all group members; each group then swapped papers with another group for peer feedback. After this, the professor also provided the groups with feedback. The group then made revisions, with each member assigned one section, and worked together to prepare a cohesive and comprehensive final paper to submit on the last day of class.

Peer and professor feedback stimulated discussion among the individual groups and with the professor, who took on more of a “guide” or “mentor” role that extended beyond...
that of a traditional lecturer. Students asked more refined questions, such as “what if,” “how does,” and “in which situation does this happen?” Outcomes from this exercise were that students improved their exam grades and achieved a deeper level of understanding the material. Students’ efforts to improve the rigor of gathered evidence and the logic of conclusions drawn made them more likely to ask the professor to review references for their papers.

This type of assignment could be applied at any postsecondary level, from undergraduates to postbaccalaureate and graduate or professional students. As an alternative to students writing in groups, this exercise can be assigned to individuals. Similarly, while the assignment described here was given in a modular course, it can likewise be incorporated in a semester-long curriculum.

Additional information on how to set up critical thinking assignments and methods of grading them can be found at https://www.thecriticalthinkinginitiative.org/.

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