Calibrated Peer Review™ (CPR) is a new online application designed to increase student reading and writing skills in the sciences. The application is modeled on the peer review process of scientific research proposals and manuscripts. CPR allows instructors to assign reading and writing assignments that can be carried out by a group of students with minimal instructor participation. The students are “calibrated” by the application on their ability to critically evaluate a set of standardized reviews. Each student’s calibrated ability to review is weighed into a formula when evaluating and grading fellow students’ reviews of the same assignment. CPR allows the students to work online at their convenience within a specified bracket of time (days to weeks).

An example assignment used by an introductory biology class (325 students) was to read an article from the Los Angeles Times on the controversy surrounding the destruction of the last remaining stocks of smallpox virus (Orent 1998). Each student had to log-on to the CPR site, read the article, and write a 200- to 250-word review of the article. The students were told to limit their reviews to the facts presented in the article and not to inject outside information or personal opinions. Once their reviews were submitted they could access a set of three “calibration” reviews of the same article that were prepared by the instructor. The calibration reviews are of poor, medium and exemplary quality. These are presented to the students in a random order, and the students are unaware of the quality ratings. With each calibration the students are asked a set of questions on style and content. After they submit their answers, CPR presents a report of how their answers compare with the instructor’s. They can get more information on the correct answers if desired. How well the students answer the calibration questions reflects on how well they read and evaluate the assignment. The students who carefully read the original article on smallpox destruction, the three calibration reviews, and correctly answered the questions, received a high calibration score. Students who did not read the article closely had difficulty evaluating the quality of the reviews, could not adequately answer the questions, and received a low score. It must be noted that students who do not take the assignment seriously and cannot answer a predetermined number of questions correctly on a given calibration review will “fail” this calibration and have to repeat it. They are also informed that if they fail the same calibration a second time they will not be allowed to retake it and will be penalized in their final score. This warning is intended to make them pay attention. This also challenges the students not to “flunk out” (most of them are familiar with this from computer games!).

Once the students pass the calibration steps they are assigned a calibration score from one to six. The students are then allowed to evaluate their fellow students’ original reviews of the smallpox article. They must answer the same set of questions that were asked on the calibration reviews. Each student evaluates three other students’ reviews and his/her own review is, in turn, evaluated by three others. Each student’s calibration score is used as a weighing factor to determine how well his or her evaluations of other students’ reviews are considered. With this system, if a student (student X) is a good reviewer, he/she will