

Student Assessment: Laboratory Format Preference

The third student assessment asked students if they preferred to have all of their labs online, all of their labs hands-on, or a mixture (ESA21 exercises had three hands-on and nine online exercises). The survey was given to 163 students in Fall 2002 and to 577 students in Spring 2003. In addition to asking their preference in lab format, the instrument had students identify the reasons for their opinions in open-ended questions. In the Spring 2003 survey we included questions asking students about their class loads, time devoted to work outside of classes, commuting distance, and whether or not they had children, in order to better assess the listed responses concerning laboratory format. The responses to these questions indicated that the largest number of our students were taking a full load, working more than 20 hours a week at a job, and driving 15-30 minutes to campus. Given this situation, we expected the majority of the students to indicate a preference for all online exercises, as they would be easier to integrate into busy schedules. However, only 46% of the students chose this option. Of this group, 66% indicated the reason for their choice was the greater flexibility involved with doing the exercises at home. Only 6% of the students preferring all online exercises cited lesser difficulty as their reason for change. Somewhat surprisingly, 43% of the students liked the mixture of online and hands-on exercises. Even with all of the demands on their time, the students seemed to feel that some hands-on experience was necessary. In fact, 30% of those choosing this option indicated that they wanted more hands-on labs, while 58% thought the current mixture of online and hands-on exercises was proper. The last option, all hands-on exercises, was selected by 12% of the students. Nearly half of those in this group (47%) thought that the hands-on labs were more valuable and interesting than the online exercises, and 34% indicated that they would like more hands-on exercises because they received more assistance in the laboratory than they did while working individually. Overall, these results indicated that a slight majority (54%) of our students liked having hands-on exercises in the laboratory program, despite the greater logistical issues involved with attending the open laboratory.

Question	Response
If you had a choice, which one of the following would you prefer: a. all computer-based labs b. all hands-on labs performed in a lab on campus c. a combination, similar to the present laboratory program	46% 11% 43%
If you chose an all computer-based lab, what was the primary reason? a. you can do the labs at home b. you are more comfortable using computers than working in a lab c. the laboratory is not open during the hours you prefer to do the lab d. computer labs are more valuable and interesting than hands-on labs e. computer labs are easier or take less time than hands-on labs	66% 9% 16% 4% 6%
If you chose all hands-on labs, what was the primary reason? a. you can get better help in the laboratory b. you are more comfortable working in the laboratory than using computers c. you do not have good access to a computer d. hands-on labs are more valuable and interesting than computer labs e. hands-on labs are easier or take less time than computer-based labs	34% 8% 10% 47% 1%
If you chose a mixture of the two, which would you prefer? a. more hands-on labs than the present mix b. more computer-based labs than the present mix c. about the same mix of labs that are used at present	30% 12% 58%