Conventional teaching of Physics for Engineers includes theoretical content, solving numerical exercises and performing laboratory work. The assessment of knowledge and the solving of problems is usually carried out by means of written exams, but laboratory work would need another kind of assessment based on specific tasks performed in the laboratory. When teaching small groups of students, laboratory work assessment should be carried out by asking students in the lab, but this is not feasible in most of the Spanish Engineering Schools, because of the size of students’ groups to be evaluated. In the Agricultural Engineering School of the University of León (Spain), where about 200 students per year attend the laboratory, laboratory work has been evaluated, in written exams, by means of an exercise inspired in measures, operations and calculations, etc., done in the laboratory. The former educational innovation has been carried out in the academic years 1990-2000 and 2000-2001. In this paper, the results obtained will be presented.