SCIENTIFIC TRAINING OF HIGH SCHOOL STUDENTS. 
INTRODUCTION TO LABORATORY WORK

Teaching Group in Optics and Vision Science¹. Departamento de Óptica, Farmacología y Anatomía. University of Alicante. (SPAIN)

*email: ferri@ua.es ¹http://web.ua.es/es/gite-docivis/

SUMMARY

In this work, we present the obtained results in a collaborative network composed by university professors belonging to the Teaching Group in Optics and Vision Sciences DOCIVIS from the University of Alicante, and high-school teachers. The aim of the network is to introduce and train high school students into laboratory practice. The actions carried out, can be summarized in: to search high schools and teachers interested in the proposal, joint planning of sessions, preparation of the laboratory kits, implementation of several physics experiments and, finally, a satisfaction survey both for teachers and students.

OBJECTIVES

•To promote the relationship between the University of Alicante and secondary schools in the province.
•To promote interest in scientific subjects and encourage students towards scientific careers.
•To effectively collaborate in scientific and practical training of future students of the University of Alicante.

METHODOLOGY

We propose to design, plan and offer students and teachers of secondary schools practical sessions in educational laboratories belonging to the Department of Optics, Pharmacology and Anatomy of the University of Alicante.

Although the above goals are very important, it must be noted that the planned activity must take into account whom it is addressed. In this case, the students of secondary school (and teachers) should find in it an immediate application. These sessions must be planned in such a way that they are directly related to the students current studies and to the content of future examinations. Moreover, the students may be able to use them to review and clarify theoretical concepts seen in class. In addition, teachers in each school will evaluate these activities.

RESULTS

In order to assess the performed work and to identify the strengths and possible mechanisms to improve the procedure, we have obtained the opinion of the participating students and teachers using small surveys that were conducted immediately after the sessions.

One issue, which is the most satisfactory result, is that referred to the usefulness of the practical sessions. Almost 75% of participating students thought that these sessions were an effective way to understand the concepts involved and to prepare for future university studies.

CONCLUSIONS

The authors think that the results obtained by this project during its short duration, are highly satisfactory to all parties involved. It is interesting that, in general, students receive satisfactorily Physics laboratory practices and consider the time spent helpful.

Acknowledgements

This work has been supported by the project “Proyecto Redes de Investigación en Docencia Universitaria. Convocatoria 2009-2010. Universidad de Alicante”