View Abstract

ABSTRACT SYMPOSIUM NAME: General Posters

ABSTRACT SYMPOSIUM PROGRAM AREA NAME: CHED

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PRESENTATION TYPE: Poster Only : Do not consider for Sci-Mix

TITLE: Enhancing biochemistry undergraduate students confidence in solving problems and their perception of learning by using inquiry-based laboratory projects

AUTHORS (FIRST NAME, LAST NAME): Ángel Luis G. Ponce[1, 3], José Antonio Torres-Vargas[1, 2], Aurelio Moya[1, 2], Melissa García-Caballero[1, 2], Ana R. Quesada[1, 2]

INSTITUTIONS (ALL): 1. Educational Innovation Group TR4BIOCHEM (PIE22-067), University of Malaga, Andalucía Tech, Málaga, Málaga, Spain.
2. Molecular Biology and Biochemistry, Andalucía Tech, Málaga, Málaga, Spain.
3. Science Education, University of Malaga, Andalucía Tech, Málaga, Málaga, Spain.

ABSTRACT BODY:

Abstract: There is an increased awareness, also perceived by students themselves, that graduates in experimental sciences lack certain general skills that may be useful in their future professional development, including autonomous learning, planning of experiments, time and resource management, or the ability to conduct presentations in public or to work as a team. The widespread use of *cookbook* laboratory protocols, where students usually limit themselves to follow a procedure, previously provided by the instructor, could be a cause of these shorcomings. Being aware that a change was needed in the style of laboratory teaching at our university, our Educational Innovation Group *TR4BIOCHEM (PIE22-067)* has been working in the implementation of new Problem Based Learning experiences focused to last course-chemistry and biochemistry undergraduate students. Herein we report our experience from the last years at University of Malaga in the design and implementation of new teaching resources in which the hands-on laboratory work was just a part of a more complete sequence of learning activities. Starting with a real-life problem, and guided by a meaningful driving question, students were driven through the process of searching for information and designing protocols. They were trained in operational issues such as the acquisition of reagents, method fine-tuning, and experimental validation in the laboratory, and finally in the critical discussion of the results. Here we present our findings on the relative impact on the students' learning outcomes and perception of this teaching methodology. Our results indicate that although inquiry-based approaches were more demanding in terms of effort and time, they were very positively perceived by students, who became more actively involved in their learning process and found this type of research experience very rewarding. Students gained confidence in their capability to apply their knowledge to solve specific problems, by having replicated situations that they will most probably have to face in their next professional career

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Presentation Preference: I will not travel to Indianapolis and with to participate virtually.

CERTIFICATE OF ATTENDANCE

Ana Rodríguez Quesada

Enhancing biochemistry undergraduate students confidence in solving problems and their perception of learning by using inquiry-based laboratory projects

Liz Huh

LIZ HUH
DIRECTOR, MEETINGS AND EVENTS