



Soil Science self-learning based on the design and conduction of experiments

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This paper presents an experience for introducing the methodology of project-based learning (PBL) in the area of Soil Science in the University of Sevilla (Spain). Currently, teachers try to enhance practical experience of university students in a complementary manner to theoretical knowledge. However, many times this is a difficult process. Practice is an important part of personal work in the vast majority of subjects that degree students receive, since the implementation of the EHEA. In most cases, these experiences are presented as partial small experiments or projects, assigned to the area-specific knowledge agenda. Certain sciences, such as Soil Science, however, require synthesis and integration capabilities of previous knowledge. It is therefore necessary to develop practical programs that address the student not only to the performance of laboratory determinations, but to the formulation of hypotheses, experimental design and problem solving, whether in groups or individually, situated in a wide context and allowing students to make connections with other areas of knowledge.

This project involves the development of teamwork experiments, for the study real cases and problems and making decisions in the field of Soil Science. The results of the experimental work were publicly exposed as posters and oral presentations and were discussed during a mini-congress open to students and a general audience.

The open and dynamic nature of the project substantially improves student motivation, which adds value to our project. Due to the multidisciplinary character of Soil Science it is relatively easy to propose projects of some complexity, and therefore, provides good conditions for introducing the PBL methodology. The teacher's role is also important and is not limited to observe or qualify the students, but it is a catalyst for learning. It is important that teacher give the leadership of the process and make the students themselves feel the protagonists of the project.