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May be geotechnical engineering learning fun?

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ABSTRACT

Geotechnical engineering, its technics and methods, are usually an awkward topic for many students of civil engineering degrees who are often more focused on getting the "final number" of a given problem than in the process, using the engineering thinking, conducted to plan first and later arrive to the solution. This issue is especially significant when teaching "advance topics" of geotechnical engineering such as Tunneling or Ground Improvement. Those topics are normally taught in the last years of the degrees and in many cases students are used to the classical teaching in higher education. All of this normally results in a low motivation of students, mainly interested in obtaining the Degree itself, more than in learning.

In this article we show an active learning methodology based on autolearning, which with the help of the teacher and a series seminars and workshops, leads to involving the engineering students in those advanced geotechnical engineering topics, even enjoying with them. The core activity of the learning methodology is the preparation of a part of the subject by the own students, who work in groups and have to give a "real" lecture to their colleagues.

The learning methodology presented follows several previous works conducted by the authors [1,2] and other researches [3], and aims the student to build knowledge, fostering their motivation as well as the responsibility of their own learning [4]. Assessment of the activities carried out by the students is conducted taking into account the evaluation of both the teachers and the students themselves.

REFERENCES

[1] F.J. Torrijo, R. Cortés and R. Valiente, "*Indagación y mejora docente en el campo de la Geología Aplicada*", in Jornadas de Innovación Eductaiva 2012, Valencia.
[2] F.J. Torrijo, J. Garzón-Roca, G. Cobos and S. Alija, "*Implementación de la metodología de Clase Inversa en el campo de la Ingenieria del Terreno*", in International Conference on Innovation, Documentation and Education, INNODOCT, 2017, Valencia.
[3] M. Santos, F.J. Castejón and L.F. Martínez, *La innovación docente en evaluación formativa y metodología participativa. Un proyecto compartido a raíz de la implantación de los nuevos grados*. Psychology, Society & Education. Vol. 4 (1), 73-86. 2012.
[4] R. Monroy, F.J. Torrijo and F. Hernández-Pina, "*Lecturers' perceptions of students' learning needs in geo-engineering in Spain*" in McCabe, Pantazidou and Phillips, Shaking the Foundations of Geo-engineering Education. London: Taylor & Francis Group, 2012, pp. 225-230.