



Teaching with Moodle in Soil Science

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Soil is a 3-dimensional body with properties that reflect the impact of climate, vegetation, fauna, man and topography on the soil's parent material over a variable time span. Therefore, soil is integral to many ecological and social systems and it holds potential solutions for many of the world's economic and scientific problems as climate change or scarcity of food and water. The teaching of Soil Science, as a natural science in its own right, requires principles that reflect the unique features and behaviour of soil and the practices of soil scientists. It could be argued that a unique set of teaching practices applies to Soil Science; however specific teaching practices are scarce in literature. The present work was triggered by the need to develop new techniques of teaching to speed up the learning process and to experiment with new methods of teaching. For such, it is necessary to adopt virtual learning environment to new learning requirements regarding Soil Science. This paper proposes a set of e-teaching techniques (as questionnaires, chats as well as forums) introduced in Moodle virtual learning Environment in order to increase student motivation and interest in Soil Science.

Such technologies can be used to:

- a) Increase the amount of time a teacher allots for student reflection after asking a question and before a student responds (wait-time). This practice increases the quantity and quality of students' answers. The students give longer responses, students give more evidence for their ideas and conclusions, students speculate and hypothesize more and more students participated in responding. Furthermore, students ask more questions and talk more to other students.
- b) Improve active learning, an essential paradigm in education. In contrast to learning-before-doing, we propose to focus on learning-in-doing, a model where learners are increasingly involved in the authentic practices of communities through learning conversations and activities involving expert practitioners, educators and peers.
- c) Introduce the specific specialised technical language (jargon) gradually. The excessive use of Soil Science jargon confuses students and frequently put obstacles in the way of learning.
- d) Encourage the students to take responsibility for their learning, continuous assessment with direct error correction and content feedback and peer review with comments sent to forum.

The student interest to learn using e-project is clearly strong.