



Dialogic and integrated approach to promote soils at different school levels: a Brazilian experience

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From ancient civilizations to present technological societies, soil is the material and immaterial ground of our existence. Soil is essential to life as are water, air and sun light. Nevertheless, it is overlooked and has its functions and importance not known and recognized by people. In formal education and in most school curricula, soil contents are not approached in the same way and intensity other environmental components are. In its essence, soils are an interdisciplinary subject, crossing over different disciplines. It has a great potential as unifying theme that links and synthesizes different contents and areas of knowledge, especially hard sciences as physics, chemistry and biology. Furthermore, soils are familiar and tangible to everyone, making them a meaningful subject that helps to build an efficient learning process. The challenge remains on how to bring such teaching-learning possibilities to formal education at all levels. Soil education deals with the significance of soil to people. What makes soil meaningful? What are the bases for effective learning about soil? The answers are very much related with subjective perceptions and life experiences carried by each individual. Those dimensions have been considered by the pedagogical approach based on Paulo Freire's socio constructivism which considers social inclusion, knowledge building, horizontal learning and collective action. This approach has been applied within the soil (science) education spaces of the Federal University of Viçosa, Minas Gerais, Brazil, both with university students and basic education pupils. At the university an average of 200 students per semester follow a 60 hours Soil Genesis course. With primary and secondary schools the activities are developed through the Soil Education Programme (PES) of the Earth Sciences Museum. In the classes and activities, materials, methods and learning strategies are developed to stimulate involvement, dialogues and exchange of experiences and knowledge between students themselves and between students and teachers in order to build and re-build their understanding of soils. Those strategies include hands-on activities, field visits, landscape observations, collective productions and artistic works among other strategies. They are done in a dialogic and horizontal way where each ones' perceptions and experiences is valued and considered for the building of knowledge on soils. Good achievements have been obtained when university students are involved in outreach activities aimed to basic education schools and to general public, in a "teach to learn" approach.