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Mineral Surface Reactivity in teaching of Science Materials

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In the last fifty years, science materials issues has required the study of air pollution, water and soil to prevent and remedy the adverse effects of waste originating from anthropogenic activity and the development of new energies and new materials. The teaching of this discipline has been marked by lectures on general lines, materials, disciplines, who explained biased objects of reality, but often forgot the task of reconstruction and integration of such visions. Moving from that model, otherwise quite static, to a dynamic relational model, would in our view, a real revolution in education. This means taking a systematic approach to complex both in interpreting reality and in favor when learning. Children relationships are as important or more than single objects, and it is to discover fundamental organizational principles of phenomena we seek to interpret or in other words, find the pattern that connects. Thus, we must work on relationships and also take into account the relation between the observer and the observed. Educate about relationships means that studies should always be considered within a framework of probabilities, not absolute certainties.

This model of systemic thinking, dealing with complexity, is a possibility to bring coherence to our educational work, because the complexity is not taught, complexity is live, so that complex thinking is extended (and fed) in a form educate complex. It is the task of teaching to help people move from level to level of decision reviews. This means that systems thinking should be extended in a local action, action that engages the individual and the environment.

Science Materials has emerged as a discipline of free choice for pupils attending chemical engineering which has been assigned 6.0 credits. The chemical engineer's professional profile within the current framework is defined as a professional knowledge as a specialization technical / functional, working in a learning organization and the formation of which enables him to continuous innovation.

Different materials are used in the adsorption and improvement and design of new adsorbents, most of whom remain under patent, so they do not know the procedures and products used, but in all cases the safety and / or biodegradability of materials used is an important issue in their choice for environmental applications. In regard to materials, safe and low cost must be mentioned clays and clay minerals, whose colloidal properties, ease of generating structural changes, abundance in nature, and low cost make them very suitable for adsorption chemical contaminants. We proposed to use these materials to show the different aspects for the study of the Science Materials.

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