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Geology and the Science of Teaching

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GEOLOGY AND THE SCIENCE OF TEACHING

JOHN E. SMITH

We have been much more concerned about what we shall teach than about how we shall teach it. To beginners, this subject should objectively and inductively as far as possible, also with much illustrative material, field and laboratory work. The principles of the science of teaching should be carefully observed and the major relationships in the subject should be kept constantly before the learner.

The topics first presented should be those best known to the beginner, such as the work of streams, erosion, etc. The study of rocks (and to some extent of minerals) may best begin with familiar materials such as sand, gravel, etc. In historical geology, as elsewhere, the more difficult parts of the subject should follow the easier ones. The pre-Cambrian, for example, should be presented after the principles of time divisions and their separation, superposition, unconformity, complex deformation, etc. have become fairly well known.

Good teaching prevents the success of efforts made by students to avoid thinking and many students do not know how to recognize good teaching when they meet with it. It is a part of the teacher's task to induce mental activity on the part of the learner. The instructor should lead, not drive, and the standards he sets form the controlling factors in the quantity and quality of the work accomplished. His motto should be, "Not how much but how well."

In making up semester standings, the following are suggested for use with some degree of equivalence: (1) assigned written work, problems, etc.; (2) reviews of books and magazine articles; (3) term papers; (4) daily systematic effort, regularity and punctuality in attendance and in completion of required work; (5) ability to use knowledge of this subject in class discussions; (6) proficiency in laboratory work; (7) ability to interpret the landscape and its substructure in terms of this subject; (8) the instructor's general estimate of the student and his work; (9) frequent, unannounced oral and written short examinations; (10) stated examinations, if given.

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