

Carl Rogers and the Origin of Experiential Learning

One of the most important components of the modern university curriculum is the concept of “experiential learning.” While it is likely that experienced geoscience educators might take this phrase as yet another example of reprocessed educational jargon, its wide-spread application makes it very much worth discussing. Within a university setting, experiential learning can take on any of a number of forms, from highly structured programs to informal activities embedded within existing lessons. The most commonly used forms of experiential learning include: undergraduate research experiences, active inquiry and problem-based learning, service learning and internships. In all cases it is important that the experiential learning activities be a component of, not independent from, the standard academic curriculum.



Experiential learning is far from new, it is without doubt, a technique as old as learning itself. The formal definition of, and advocacy for, experiential learning began with the psychologist Carl Rogers (1902-1987). Rogers recognized two general types of learning: cognitive, the memorization of vocabulary, chemical formula, multiplication tables and the like; and experiential, the applied knowledge that comes from doing. His books, *Freedom to Learn* and *Client-Centered Therapy* paved the way for the concepts of student-centered teaching and experiential education. Rogers saw the role of the teacher to be one of facilitator – a person who created an environment for learning. Specifically, experiential learning can occur when the following general conditions are met: students participate in, control and direct the learning process; activities are based upon direct interaction with nature; and self-evaluation is used to assess

student learning. In order to foster experiential learning, an instructor does not teach directly, but rather facilitates learning. Additionally, learning is most effective in a non-threatening environment.

Geoscience educators have long recognized the importance of experiential learning. Geology is, after all, a very much hands-on science. The need to go to the field, to experience the scale and scope of geological materials and processes, is fundamental to classical training in geology. Our discipline, and thus the nature of training of our students, is undergoing rapid change. Increasing levels of specialization in the fields of organic and inorganic geochemistry, biogeochemistry, and the numerous subdisciplines within geophysics has resulted increasingly theoretical and laboratory-based instruction for our students. As such, the time spent

in traditional field-based learning has decreased significantly. While field schools continue to provide an important capstone experience for some students, many of our finest universities no longer require field camp for admission to their graduate programs. I see no simple solution to navigating this changing educational landscape. Previously, I have offered suggestions for the future of field-based learning (*JGE*, v. 49, p. 336) and clearly, I believe field schools have an important role in the training of geology majors. Yet, field camp alone, will not suffice.

I strongly encourage geoscience educators to read the works of Rogers, as well as the extensive recent literature on experiential learning. The lessons put forth in *Freedom to Learn* are broadly applicable to the geosciences and, this is especially true in the fields of geochemistry and geophysics.

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