

Teaching to Learn and Learning to Teach: Education in Rangeland Ecology and Management

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Teaching in our rangeland ecology and management discipline is continuously evolving to address emerging issues and meet the needs of our students and their potential employers. The core curriculum in many range science education programs is strongly influenced by current accreditation standards¹ set by the Society for Range Management (SRM). These are based upon the standards developed by the Range Science Education Council (RSEC) and federal Office of Personnel Management (OPM) for employment as rangeland management specialists with federal land management agencies (GS-0454 series²). However, a recent survey of range professionals revealed some gaps between what our students are learning and what potential employers and other stakeholders need and value.¹ These findings prompted RSEC to begin a fresh examination of the knowledge, skills, and abilities needed by modern rangeland professionals, and our educational approaches to address these needs.

As one result, the idea for symposia and a special issue of *Rangelands* was born. Our focus is not on the SRM accreditation standards or the Office of Personnel Management requirements. Our goal is to examine how teaching and learning occur and how both can be improved using innovative methods. In this issue are papers covering different aspects of teaching. Our target audience is anyone who is interested in how to teach better so that students also learn better. Students in this case are broadly defined to include K–12 students, college and university students, and adult learners.

The Range Science Education Council has for years recognized the top undergraduate teachers in our profession. This issue and the symposia held at the 65th Annual SRM Meeting in Spokane, Washington, seek to capture some of

the innovative ideas and methods that are being used by these faculty and other educators. We are all “teachers” in some capacity, and there are many ideas in these articles for you to consider implementing in your teaching program. We are not saying that you have to use every one of these ideas to be a great teacher. We encourage you to consider new ideas and approaches, and figure out what works for you and your students.

The specific objectives of this special issue are to: 1) highlight innovative teaching methods in a variety of learning settings; 2) highlight innovative teaching methods on a variety of topics within a rangeland ecology and management curriculum; and 3) begin a dialogue on innovative teaching methods within the profession. We will bring current ideas on teaching and learning into one place for future reference by members of our profession. Brief abstracts of each paper are provided here. We encourage you to read each paper, because there is a wealth of ideas in each one.

Learning and Teaching in College: An Ecological Perspective

Learning in college can be enhanced if range educators have a better understanding of underlying learning and teaching concepts and processes. We can find similarities between the structure and function of ecosystems and learning environments by using analogies and familiar models. State-and-transition models describe the dynamics of plant community development, as well as student intellectual and faculty teaching development. Similarities exist between the acquisition, transformation, storage, retrieval, and use of nutrients by plants and knowledge by humans. Curriculum, instruction, and assessment can be viewed in a successional management framework similar to one developed for invasive plant management on rangelands.

Teaching Across Disciplines and Institutions

Current rangeland ecology and management programs are being challenged by: 1) the shifting demographics of range-

¹ See the SRM University Accreditation Program Handbook available at: http://www.rangelands.org/accreditation/SRM%20Accreditation%20Handbook%20Approved%20revised_April%202011%20_2_.pdf

² See the OPM Standards for the Rangeland Management Series available at: <http://www.opm.gov/qualifications/standards/IORs/gso400/0454.htm>.