Watch and Learn: Promoting Student Autonomy and Competence in the Field with Just-in-Time Knowledge Clips

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The ultimate aim of field courses should be to enable students to work autonomously in the field. We should therefore organize learning activities during which students work autonomously in the field. Student- and problem-centered approaches to learning in the field afford students much autonomy, but unlike in the more traditional show-and-tell approach, independent projects have so far required that students spend a significant amount of time working in the field without access to supervision. Unless students are competent enough to experience proficiency and a feeling of controlling the quality of their own work, such autonomy is detrimental to student motivation.

Short knowledge clips that meet the immediate need of a student exactly when it arises are an interesting form of blended learning that promotes student autonomy and competence. Just-in-time knowledge clips can (a) provide further information and insights into a key question; (b) complement students’ background knowledge and help refresh their memory on important concepts; and/or (c) demonstrate techniques needed to acquire field data successfully. Knowledge clips, by their very nature, help students learn visual subjects, such as structural and sedimentary geology in the field.

Students no longer need to wait to get the contact time they need to move on with their work: they can watch (a knowledge clip) and learn just-in-time. Face-to-face time in the field with an instructor can then be used to achieve higher-order learning outcomes, focusing not on acquiring knowledge but on gaining insight and understanding.