

**Learning-for-Use in Earth Science:  
Fostering Knowledge and Skills Students**

**Will Be Able To Use**

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**Abstract**

A major challenge for education is helping students develop knowledge and skills that they will be able to retrieve and apply when it is useful in the future. Too often, students develop understanding that is only useful for assessment, not for future use in educational or real world settings. To address this problem, I have developed the Learning-for-Use framework for instructional design, which provides guidance on how to design learning experiences that develop knowledge and skills to support future use. Based on contemporary research in cognitive science, the Learning-for-Use framework draws attention to the need to provide students with a motivation to learn based on the usefulness of what they are learning and the need for them to apply what they have learned in context as part of the learning process. I will present examples of how my colleagues and I have applied Learning-for-Use to design geoscience curricula for middle school and high school.