Place-based and Culturally Valid Geoscience Curriculum and Assessment Development

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Earth Educators' Rendezvous 2015

CURRICULUM

What constitutes place-based teaching?

Place-based (PB) methods of teaching geoscience leverage **sense of place** (meanings and attachments affixed to places) of students and instructors, as they are situated in surrounding environments and landscapes, infuse local and indigenous ways of knowing, and engage with regional and local issues bearing on environmental and cultural resilience and sustainability.

Place-based teaching means ***situating content and inquiry in the landscapes and communities*** of specific, typically local, places and regions. It is applicable to formal classroom, lab, and field teaching as well as to free-choice teaching or interpretation. PB curriculum is **organized according to the attributes of place**, and sense of place can be used as a an authentic, measurable learning outcome.

What methods are most conducive to learning in places?

INSTRUCTION

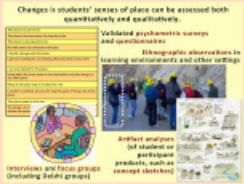
DISSEMINATION

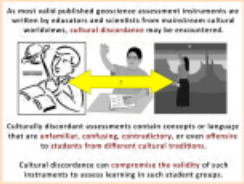
How do we share best practices?

There is increasing interest in the place-based approach, with regard both to ***practice*** and to ***education research***. Some studies have shown that PB teaching fosters **greater participation** in geoscience studies and careers by underrepresented minority students, while also appealing to and motivating mainstream students. The **February and May 2014 issues** of the ***Journal of Geoscience Education*** (v. 62, no. 1-2) offer a broad and current survey.

Authentic assessment closes the circle on effective place-based teaching. One can measure **changes in students' senses of place as a learning outcome** using valid psychometric surveys or ethnographic observations.

Assessment of **geoscience content learning** presents a different problem. If valid published instruments are used for this purpose, **cultural discordance** is possible. Cultural discordance can compromise the validity of such instruments to assess learning in such student groups. ***Cultural validation*** is a research-based and tested method that minimizes cultural discordance of assessments while retaining other forms of validity and following best practices for assessment design.





What is authentically place-based learning?

ASSESSMENT