Experiential science learning is all about personal close encounters with the content, processes, and emotions of science.

It is a philosophy that emphasizes learning from direct first-person experience and a holistic perspective that includes the self-construction of knowledge as well as emotions, attitudes and beliefs that combine to form a learner’s “science identity.”
Forms of Experiential Learning

- Science Field Studies
- Educator Internships
- Science Adventure Travel
- Professional Leadership
- Student Science Programs

All designed to enhance participants’ science identities

www.Xsci-ucd.org
“Give them opportunities to live incredible experiences, generate incredible stories, build incredible identities”

Science identity describes personal ownership and integration of STEM into an individual’s sense of self through processes of interpretation and personal meaning making.

This sense of self plays out in the stories we tell and the stories that make us who we are.
• Example of an extraordinary professional development experience we conduct for science teachers

• Trailer of upcoming documentary film in the “Inspire Me” series

• 2009 group, climbed Kilimanjaro, went on safari, visited schools, orphanages, Maasai villages
Movie
“Teachers are, as a class, more excited about an experience” - Story Musgrave

| Extraordinary experiences are in the “mind of the beholder” |
| Not in the itinerary |
| Therefore, may occur almost anywhere, anytime |
| Our most significant stories are based on our most extraordinary experiences |

Experiential Science Education Research Collaborative
1. Program selection - identify the central activity/theme based on need and opportunity
   a. What are the activities around that experience?
   b. Map the potential activities for what they bring to the experience in terms of the 3 science identity construction zones: intellectual, emotional, and physical.


3. Cohort Cohesion includes activities that support Initial Cohort formation as a "Community of Practice" (kick-off meeting, video workshops, skill activities, training, online interactions)

4. Central Activity Engagement - the actual journey and associated activities with embedded reflections and assessments

5. Post-Journey Reflections include video editing, journal completion, group sharing, film festival, course product delivery, curricular development

6. Dissemination
   a. Classroom implementation - resource sharing, classroom collaborations, networking with partners, sharing videos of discussing the experience with their class, etc.
   b. Professional / Collegial Outreach - Conference presentations, research papers and articles, collaborative curricula creation, website distribution of resources, short films, documentaries, etc.

7. Extended Cohort Involvement includes alumni activities, involvement in other projects, further curricula development, involvement with other alums -- a continuing menu of opportunities to interact
“We give the highest value to those things that demand the highest risk – our freedom, our lives, our souls” - Robert McKee

• “Mind of the Beholder” notion again

• Risk & Reward
  – Physical
  – Emotional
  – Intellectual
  – Risk... Value... Meaning.... Key to transformative potential (positive or negative science identity impacts)
Inspire Me Africa: Sara

• Sara’s interview 2 years post experience
  – Sustained impacts
  – Continued transformation
  – Identity construction occurs at variable rates

“It is through stories that we define who we are. Stories provide us with our identities”

- Dan McAdams
XSci

Park Service Teacher Education
Special Places
Virtual Trips

Views of the National Parks

Where to visit riparian corridors

Where can you go in Whiskeytown to explore riparian communities? You have many options as there are a number of accessible streams in the park.

Explore white alder riparian forests in deep, steep-sided canyon bottoms above about 2,800 feet (860 m). Discover Pacific yew-where along the Brandy Creek.

Along the Brandy Creek, Douglas-fir, canyons live along this mossy track.

Whiskeytown
- Whiskeytown: Knebokl pine
- Whiskeytown: Mixed oak woodlands

Whiskeytown: Aquatic Inventory (Whiskeytown)
- Aspect (Whiskeytown)
- Bryophyte Inventory (Whiskeytown)
- Elevation (Whiskeytown)

Using the program: search

Search is a powerful new feature of Views. To initiate a search you must be in the browser view mode (Flash's internal security prevents full-screen mode text input).

Select the search field and type in the word, partial word, or phrase you want to search. Click the search word to the right of the field or press the enter/return key to conduct the search. The results will appear above the search field. A scroll bar appears if more results are available than will fit on a page.

Search term
Search field
Results scrollbar
Close button
Page
1
2
Partnership in the Virtual World

- Good/accurate information
- Create virtual trips and hikes
- Integrate info from the National Park Service, other national and international locations with historical/science connections
- Engage Youth: Multimedia including 360 degree panos, 3D, interactive graphics, videos, movies, interviews
### 2010/2011 Courses

- **Marine Science for Teachers, Fall 2010**
- **Space Exploration Educators Conference (SEEC) Spring 2011**
- **NSTA Workshop: Leadership Spring 2011**
- **African Kilimanjaro Climb and Safari Expedition, Summer 2011**
- **Grand Canyon Raft Trip (geology, biology) Summer 2011**
- **Australian Great Barrier Reef Ecology & Outback Ecology and Culture**
- **Hawaii Volcanoes, "Newest Land," Summer 2011**

### About XSCI and Experiential Learning

Experiential science learning is all about personal close encounters with the content, processes, and emotions of science. It is a philosophy that emphasizes learning from direct first-person experience and a holistic perspective that includes the self-construction of knowledge as well as emotions, attitudes and beliefs that combine to form a learner’s “science identity.”

At XSCI, we recognize the importance of students and teachers co-construction of positive science identities through experiential learning as a critical pathway towards confident teacher practice and student science literacy.

Our purpose is to uncover the ways educators and students construct extraordinary science learning experiences for themselves and their peers. To do this, we design, conduct, and research the impacts of several types of teacher and/or student experiences, including the following programs:

- **Research in the Raw: Science Field Studies**
- **Get-Into-It: Science Educator Internships**
- **Passport to Science: Science Adventure Travel**
- **iLead: Professional Leadership Program**
- **Scldentity: Student Science Programs**

XSci’s work to answer these questions and support the practice of science teachers and student learning is dedicated to the formation of a more curious, informed, and science literate world.