

NOAA California B-WET Program

Evaluation Plan 2 Example

Goals

The target audience for this evaluation is teens participating in the summer camp program. The goal of this evaluation is to collect data from participants to determine their satisfaction with the program and the impact of the program on their knowledge and attitudes about local habitats.

Questions/Issues

The questions/issues this evaluation will address are:

- What do teens gain from the program?
- What's the impact of the program on them?
- Do they learn about the local watershed?
- Do they gain a connection to/care about the local watershed?

Methods and Procedures

To collect the data we need to answer our evaluation questions, we plan to have the teens:

- take a pre-program and post-program survey
- complete a pre-program and post-program concept map.

Time Table

What follows is a schematic for the timing of this evaluation project.

<i>Task</i>	<i>Timing</i>	Week 1 Monday	Week 2 Thursday
<i>pre/post survey</i>		• pre-program survey (a.m.)	• post-program survey (a.m.)
<i>pre/post concept map</i>		• pre-program concept map (p.m.)	• post-program concept map (a.m.)

Data Analysis

Responses to quantitative survey questions (on participants' pre/post surveys) will be tallied and reported as the frequency and percentage of responses. Statistical analyses (Chi-square) will be performed on rating scale scores between pre-tests and post-tests to determine significance. Alpha values (significance levels) will be set at 0.05. Responses to qualitative survey questions will be categorized, and then tallied with the top categories reported.

For the concept maps we've developed a scoring system drawn from Novak & Gowin (1984), Shavelson et al. (1994) and our experiences with past concept mapping projects. Each map will received a numerical total map score (T), indicating the map's level of complexity. That score will be derived from the sum of the number of prepositions/concepts (P), number of links between prepositions (L), number of link categories (LC) and number of concept categories (C), minus the number of errors (E). In addition, for each map we will tally the number of habitats named (H) and number of scientific concepts/topics identified (SciP).

Statistical analyses (paired t-tests) will be performed on concept map mean scores to determine significance between pre/post map scores, as well as the number of concept categories, habitats and science topics/content mentioned. Alpha values (significance levels) will be set at 0.05.

References

- Clayton, S. & Opatow, S. (Eds.). (2003). *Identity and the Natural Environment: The psychological significance of nature*. Cambridge, MA: The MIT Press.
- Novak, J.D. & Cañas, A.J. (2006). *The Theory Underlying Concept Maps and How to Construct Them*. Technical Report IHMC Cmap Tools 2006-01. Pensacola, FL: Florida Institute for Human and Machine Cognition. Available at <http://cmap.ihmc.us/Publications/ResearchPapers/TheoryCmaps/TheoryUnderlyingConceptMaps.htm>.
- Novak, J.D. & Gowin, D.B. (1984). *Learning How to Learn*. Cambridge: Cambridge University Press.
- Shavelson, R.J., Lang, H. & Lewin, B. (1994). *On Concept Maps as Potential "Authentic" Assessments in Science*. CSE Technical Report 388. Los Angeles, CA: National Center for Research on Evaluation, Standards, and Student Testing (CRESST).