



**Title:** Evaluation of Web-based Training on Water Resources for Extension Professionals

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**Organization:** Colorado State University Cooperative Extension

**State:** CO

**Region:** Northern Plains and Mountains

**Year of Funding:**

**Theme:** Water Policy and Economics

**Situation:** The following research project is based on a need addressed in the fall of 1999. At that time, the administration of Colorado State University (CSU) Cooperative Extension (CE) and the CSU Agricultural Experiment Station (AES) started a planning effort to determine the future outreach and research needs for water resources programming. Based on the recommendations of this committee of administrators and interested parties, a need was recognized. Namely, that there was a gap between the current educational training programs and the knowledge base of extension faculty, concerning water issues in Colorado. Therefore, this body recommended that one way this need could be fulfilled was through the development of an internet water-training course for Colorado Cooperative Extension Faculty. The participants for this pilot internet course were selected, on a voluntary basis, at the CSU Cooperative Extension In-service training held at the CSU campus on February 28, 2002.

**Objectives:** The online water-training course set out to meet five objectives. First, the overall objective was to evaluate its effectiveness as an educational medium when presented to a population consisting of Colorado CE faculty. A second objective was to provide Colorado CE faculty with a viable and relevant professional development opportunity. A third objective was to increase Colorado CE faculty's knowledge base concerning water issues and its use. The fourth objective was to create a situation in which extension faculty would be able to better serve the public after taking the course. The fifth objective of this project was to improve Colorado CE faculty's skill and proficiency in utilizing the computer as a resource and educational tool.

**Methods:** The project was entitled CES W101: "Colorado Water Basics". It was administered through WebCT beginning on April 1, 2002. The course was approximately three hours in length and covered three main areas: the hydrologic cycle, Colorado water resources, and Colorado water law and management. The evaluation tools of this project included embedded tests, a pretest, and a posttest. In addition, a survey was administered at the end of the course to measure the attitudes of the participants. All of these evaluation tools helped determine the overall effectiveness of the course.

**Partnerships:** WebCT administers online instructional courses for faculty at CSU and other colleges on a national level. The WebCT support staff played an important role in answering questions and solving infrastructural problems that arose during the course.

**Research:** This online water course was created with existing data derived from research and statistics concerning Colorado's water resources, laws, and administration. By integrating water-related research with an internet-based course, an educational opportunity was created for Colorado CE faculty. Furthermore, both the internet course and the increase in water-related knowledge obtained by the faculty who participated in the course have enhanced the quality of outreach provided by Colorado Cooperative Extension.

**Resources:** Resources for the project consisted mainly of staff time put into the development of the course. A graduate student, Matt Neibauer, did the main research and development of the course. The principal investigator of the project was Reagan Waskom, a Water Resources Extension Specialist for CSU Cooperative Extension. Reagan provided informational support, resources, research materials, and editing expertise. The WebCT support staff provided technical assistance at various times throughout the development of the project.

**Results:** The course was approximately three hours in length and included a pre-test, post test, embedded tests and a survey. The course consisted of three sections: the hydrologic cycle, Colorado water resources, and Colorado water law/management. Each section covered basic water concepts, laws, and terms. At the end of each section a ten-question embedded test was given. Each section had an approximate duration of 50 minutes, including the embedded test. At the beginning and end of the entire course, a pre and post test was administered respectively. Each test consisted of twenty questions. Total time for both tests was approximately 30 minutes. These tests helped determine the causal relationship between taking the course and any increase or decrease in the knowledge base of the participants. At the end of the training, a survey consisting of 20 questions was administered to the participants. This survey was designed to evaluate the attitudes of the participants concerning the course. The duration of this survey was approximately ten minutes.



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