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Gulden Karakok* (gulden.karakok@unco.edu), **Aaron Wangberg** (awangberg@winona.edu) and **Nicole Engelke** (nengelke@fullerton.edu). *An Enhanced Implementation of the WeBWorK Online Homework System as a Formative Assessment Instrument*. Preliminary report.

In this presentation we will share our advancement and implementation of the free open source online homework system WebWorK as a formative assessment instrument. Unlike the traditional homework system implementations that record students' final answer, our enhanced instrument captures and reproduces the actual students' solutions of calculus problems in real time. This powerful instrument further records students' modifications to their solutions after they are prompted that their final answer is incorrect. We have been using the advanced instrument throughout a calculus course for weekly quizzes. As students work on their weekly quiz, the ability to capture all student attempts and solutions specifically helps us to gain understanding of students' misconceptions of a given topic before they are compounded by new material. During our talk we will show examples of students' solutions of function composition problems and how the advanced instrument helps us to recognize some of the misconceptions on this particular topic. (Received September 22, 2011)