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Aaron D. Weinberg* (aweinberg@ithaca.edu), Department of Mathematics, Ithaca College, 953 Danby Rd, Ithaca, NY 14850, and **Thomas J. Pfaff**. *Designing and Assessing Hands-On Statistics Activities: The Central Limit Theorem and Hypothesis Testing*. Preliminary report.

Many demonstrations and activities have been suggested for helping students understand complex statistical concepts. However, few of these have been evaluated for their impact on student learning.

We designed a collection of hands-on activities to help students explore the central limit theorem, confidence intervals and hypothesis testing (specifically the 1- and 2-sample proportion tests and the 1-sample t-test). We administered written pre- and post-tests to assess students' understanding and a written survey at the end of the course to assess students' opinions of the activities. Students responded positively to the activities and reported that the activities helped them understand the concepts. However, the results from the tests were mixed. This underscores the importance of formally assessing the effectiveness of pedagogical materials.

In this talk, we will describe the design of our activities, the assessments, and the results from our pilot study. We will then discuss how we are using a constructivist theory of learning to redesign the activities, the way we implement them, and our assessment tools. (Received September 15, 2008)