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Sean D Simpson* (sean.simpson@sunywcc.edu), **Stacey Hancock, Jennifer Noll** and **Aaron Weinberg**. *From Tactile to Computer Simulation: An Intermediate Activity to Increase Understanding of Sampling Distributions*. Preliminary report.

Sampling distributions are foundational to introductory statistics curricula. Research has documented students' difficulties with this concept, indicating that students often confuse distributions of samples with distributions of sample statistics, apply the properties of the population distribution to the sampling distribution, and experience difficulty making sense of the variability of sample statistics and how this knowledge can be useful in statistical inference (Chance et al., 2004; Lipson, 2003; Saldanha & Thompson, 2007). We hypothesize that this difficulty arises due to students not fully understanding the process of repeated sampling and how this process is used to construct sampling distributions. To address this, we propose an "intermediate" stage between sampling activities and sampling- distribution activities in which students describe models for the repeated-sampling process and write instructions for carrying out the resulting simulation.

In this talk, we will describe this "model & simulation-describing" stage, provide an example of "bridging activities" between hands-on and computer-simulation methods that support this stage, and discuss results from our own classroom experiences. (Received September 22, 2011)