Experimental Biology 95, Atlanta. Poster Abstract.

THE LEARNING EFFECT PRODUCED BY EXPERT TUTORING

A. Rovick and J. Michael. Rush Medical College, Chicago, IL 60612.

The extraordinary improvement in learning achieved by replacing classroom instruction with one (or a few)-on-one tutoring by an expert tutor for an entire course is well known (the 2 sigma effect; Bloom, Educational Res 13: 4, 1984). However, most tutoring involves brief, infrequent sessions between a student and a tutor. The impacts of such interactions have not been well studied. We (Rovick & Michael, Adv Physiol Ed 263: S33, 1992) have demonstrated that tutors/facilitators in a computer laboratory on blood pressure regulation incremented learning above the effects of the teaching program (CIRCSIM) and peer teaching on a specific aspect of the subject material, the large scale interactions between CV system variables. However , the tutors had no added effect on the learning of facts. In a more recent study students were divided into two groups. Both groups received a pretest consisting of a blood pressure problem. The control group was then given an edited text segment to study while the experimental group received one-on- one tutoring (by one of the authors) during the solving of a problem in the same domain area. Both groups were then given a posttest. Significantly (P=. 01) more learning of the large scale relationships was achieved by the .tutored group. However, there was no difference between the groups in the learning of facts. Thus the tutors improved the same kind of knowledge acquisition in both studies, i.e., the understanding of the interaction between system variables.

This work was supported by the Cognitive Science Program, Office of Naval Research under Grant N00014-91-11622 to Rush Medical College and Grant N000I4-89-J-1952 to the Illinois Institute of Technology.