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A Study of Some Transfer Values of Laboratory Versus Library Projects

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Poppy and Lapp: A Study of Some Transfer Values of Laboratory Versus Library Proj

tional set-up. These were over theory only barely mentioned in the text. The results were similar to those mentioned above.

The results of these experiments over a very restricted area in the teaching of college physics lead one to question the effectiveness of lecturing in the teaching of college physics.

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SOME EXPERIMENTS ON THE TEACHING VALUE OF TALKING MOTION PICTURES IN COLLEGE PHYSICS

C. J. Lapp and W. J. Poppy

At the end of the first semester a talking motion picture on molecular physics was shown twice to Section A in College Physics. Section B did not see the picture. The following day the Nation-wide examination in College Physics was given to both groups and about twenty questions were selected for analysis from the examination covering material reviewed in the pictures. Also a supplementary examination of 13 questions was given to cover material not covered in the final examination. An analysis of the results shows that this talking motion picture was a very effective means of reviewing molecular physics.

A talking picture over electrostatics was shown in the second semester. An objective examination was then given and the results compared with those of a section to which a lecture on electrostatics had been given. The results favor the students seeing the picture. These data were handled statistically and corrected for the natural level of ability of the sections.

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A STUDY OF SOME TRANSFER VALUES OF LABORATORY VERSUS LIBRARY PROJECTS

W. J. Poppy and C. J. Lapp

A library project is defined as carefully outlined library work that is calculated to have the same teaching values and to require

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the same time to accomplish as a certain laboratory experiment. The transfer values of projects versus laboratory experiments have been tested in seven student groups of known intelligence. It has been difficult to find concepts and skills that did not transfer better in the more intelligent groups from project than from experiment in the laboratory. In the groups of lower intelligence the reverse is true. These data have been treated statistically.

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ELECTRON COLLISIONS IN MERCURY VAPOR — THE 9.8 VOLT LOSS

C. L. CROSS AND JOHN A. ELDRIDGE

Magnetic analysis of electrons which have passed through mercury vapor has shown the energy losses corresponding to the principle levels of the normal atom. A very prominent energy loss of 11.1 volts (and so greater than the ionization potential) is not accounted for. It is now shown that the energy loss of 9.8 volts is not due to a double 4.9 excitation.

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MEAN FREE PATHS OF MOLECULES AND THE WAVE MECHANICS

JOHN A. ELDRIDGE

Direct experimental determination of the mean free paths of hydrogen, nitrogen and oxygen have led to a value of the effective cross section of the molecule between 4 and 5 times greater than that obtained from viscosity measurements. Massey and Mohr have shown that assuming the rigid sphere molecule the wave mechanics leads to a difference in the values; the theoretical ratio, however, is not greater than 2.

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