Montana State University awarded research grant by National Science Foundation

Follow this and additional works at: https://scholarworks.umt.edu/newsreleases

Let us know how access to this document benefits you.

Recommended Citation
University of Montana–Missoula. Office of University Relations, "Montana State University awarded research grant by National Science Foundation" (1958). University of Montana News Releases, 1928, 1956-present. 188.
https://scholarworks.umt.edu/newsreleases/188
The National Science Foundation has awarded a research grant of $15,100 to a Montana State University psychologist for continued experiments on human trial-and-error learning, MSU officials announced.

The research program will be directed by Dr. Clyde E. Noble, associate professor of psychology, with aid from several psychology majors and graduate students. Subjects in the experiments will be University students, primarily freshmen and sophomores. Laboratory studies will use the Selective Mathometer, a multiple-choice push-button apparatus Dr. Noble invented while serving with the U. S. Air Force in 1952.

The main function of the instrument is to record the trial-and-error process in such a way that psychologists will be able to apply mathematical equations to human behavior, Dr. Noble said. Through the use of these equations, experimental results can be checked against theoretical predictions in order to advance basic scientific knowledge of human learning.

"We are trying to find out what the general, hypothetical properties of the learning functions are so these properties can be applied to any specific, practical situation", Dr. Noble said. Because of the vast amount of technical equipment used by the armed forces, the Government needs to know a great deal more about specialized personnel who operate and maintain electronic devices. The University studies may show how such proficiency is acquired under controlled laboratory conditions.

Under the grant, investigations will be made of the relationship between amount of practice, task complexity, and individual learning ability, as well as the influence which such factors as type of reward and manner of instruction have upon problem solving. Studies already completed have succeeded in accurately forecasting the likelihood of a subject's reaching a correct decision at various stages of training. "Our experiments
indicate," Dr. Noble pointed out, "that individual behavior is predictable by the same laws which govern the behavior of averages or groups".

The Mathometer is designed to minimize a person's higher mental abilities as he attempts to solve the problems presented, but the instrument is versatile enough to explore a wide range of phenomena - from rote learning to reasoning. The method will involve student volunteers who sit in front of the panel and attempt to associate certain buttons with symbols appearing for a short time on the screen. Every reaction is recorded on a moving tape. From these data graphs are plotted, which are later statistically analyzed and interpreted.

From past research, Dr. Noble has found his subjects capable of amazingly rapid solution of complex problems. Experiments have shown, for example, that a problem which has 25,000 different solutions is not much more difficult than one which has 5,000 solutions. "This remarkable achievement is due to the learning process, which enables man to profit by his mistakes and reach his goals with a minimum of effort," the University said.

Psychology students assisting in the experiments are Ridgley W. Chambers of Missoula, James E. Fuchs of Harlowton, and Donald P. Robel of Kansas City, Mo.