AN HISTORICAL ACCOUNT OF THE DEVELOPMENT

of

PROGRAMMED LEARNING

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by

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Although "Programmed Learning" is regarded as a recent development, it can be traced as far back as the early Greeks. It was also used during the seventeenth century by the Cartesians who were followers of Rene Descartes. However, it was not until the "twenties" in this country that concentrated efforts in research and development were publicized. Two of the most prominent names among the early developers of programmed techniques of the twentieth century are Sidney L. Pressey and B. F. Skinner. During World War II, the United States Armed Forces conducted their own research and used several programmed testing devices. In the fifties, B. F. Skinner collaborated with James G. Holland and devised some auto-instructional methods which are presently being used.

Programming consists of a carefully ordered and organized sequence of material to assure the best possible learning conditions. It carries a student through a specific series of steps that lead him progressively closer to the terminal objectives toward which the program is written. The program designer must determine the goals or objectives of the learning program. The program should not only provide careful guidance but elicit an active response by the student to each stimulus presented. As soon as the student makes his response, the program should inform him of his correctness or incorrectness. The more rapidly this "feedback" follows his responses, the more effective becomes reinforcement or extinction, as the case may be. At each step, therefore, the

student should be informed of how well he is doing thus keeping him from compounding error. Programs may be used in a mechanical device or in the form of a textbook. Programmed tapes, films, and computer-controlled devices are also being used.

"Programmed Learning" has many "pros" and "cons." Some of the outstanding "pros" are: it affords students individualized instruction; encourages them to actively respond; provides students with immediate information concerning their correctness or incorrectness; reinforces knowledge gained, and offers them a program prepared by an expert. However, some of the more prominent "cons" are: it discourages critical thinking; fosters only rote learning and memorizing of facts; encourages conformity; stifles creativity and is not easily adapted to all subjects.

Since there has been much experimentation with programmed materials across the country, a joint committee of the American Educational Research Association, the American Psychological Association, and the Department of Audiovisual Instruction of the National Education Association have issued a handbook for teachers including criteria for assessing programmed instructional materials.

The application of technology to the auto-instructional concept is only a few decades old, and it is difficult to predict all the advances which will be made in the foreseeable future. However, the role "Programmed Learning" will play in our schools will depend on continuing research and development in the laboratory and in the classroom.