

A SEMI-AUTOMATIC TEACHING MACHINE^{1,2}

C. B. FERSTER

INDIANA UNIVERSITY MEDICAL CENTER

Figure 1 is a drawing of an inexpensive, portable teaching machine which was made of Plexiglas. (Wood, cardboard, micarta, or other plastics would have also been suitable.) One frame at a time appears in the window (B), and the student writes his response to the text directly on the tape through an opening in the lower part of the window (A). The teaching program is prepared on long strips of paper. The typical lesson of the Holland-Skinner Psychology Program, composed on an elite typewriter, is 65 inches long. Each lesson, rolled into a scroll, is placed in the well in the front of the machine (G). The edge of the paper is brought across the writing surface (H) and fastened to the spool (J) in the well (C) at the back of the machine by a phosphor-bronze clip (K) on the spool. The "U" slot (D) on the side of the back well serves as a bearing and also holds the spool in a fixed position because of the groove (I). The paper is then advanced by turning the spool. The paper roll is guided by the inside surfaces of the box. A permanent arrow on the window serves as a guide for

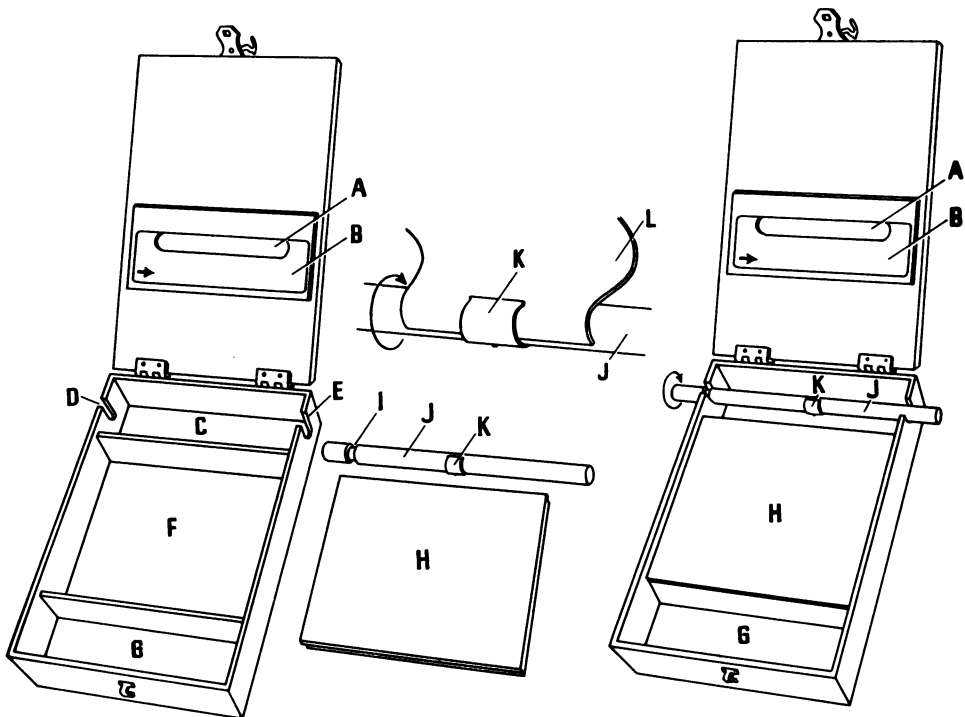


Figure 1. Schematic drawing of the teaching machine.

¹The design and construction of the semi-automatic teaching machine was carried out under a grant from the Office of Education, Department of Health, Education, and Welfare under Title VII of the National Defense and Education Act.

²Several versions of this teaching machine are being manufactured by A. H. B. Products, 6247 Park, Indianapolis, Indiana.

indexing the frames. When the student turns the paper until the arrow on the frame coincides with the arrow on the window, the frame is in correct position and the answer does not show. Also, the previous question is out of sight, and the window opening positions the student's response in the required place.

The phosphor-bronze clip (K) follows the curvature of the spool with a slight lip to facilitate inserting the paper. The open end of the spring clip is in the clockwise direction of the spool. By winding the paper with a clockwise rotation of the spool (an arrow on the end of the spool gives the student the direction of rotation), the wound paper can be removed from the spool, without unwinding, simply by gripping the paper and spool with one hand while rotating the spool alone counter-clockwise with the other hand. Removing the roll from the spool without rewinding makes it possible to print on both sides of the paper and run a second lesson by replacing the roll in the front well and winding it through a second time.

The surface in which the student writes (H) is removable, so that extra or completed tapes may be stored underneath (F).

The machine has been used by 60 Freshman medical students taking the Holland-Skinner Psychology Program. To date, the machine appears easy for the students to load, relatively fool-proof, and automatic enough in operation so that the students do not report any difficulties in continuous operation. The tapes are not reusable since the student writes on the tape. Therefore, the teaching machine can not be practically used unless some cheap method of duplicating long tapes is possible. Such a method has already been described using a spirit duplicating process, producing up to 150 copies from one master (Ferster, 1960). For larger numbers of copies, up to 76 inches long, an offset or letter press may be used.

REFERENCE

Ferster, C. B. A continuous stencil duplicator, *J. exp. anal. Behav.*, 1960, **3**, 109.

Received March 10, 1960