TECHNICAL NOTE

A PORTABLE PROGRAMMED, AUDIBLE TIMER¹

Time-series design experiments demand that observations be made repeatedly over a pre-set time base. The observer using this method of data collection generally notes whether or not a selected behavior has been emitted during the time interval. This method of observation has proven useful in a variety of settings, as recreation (Pierce, 1971) and day care (Doke, 1971).

A common problem with this technique is that the observer must constantly shift his gaze between his subjects and his stopwatch. Adjustable, audible timers have been designed that allow the observer to watch his subjects while listening for time boundary markers (Weight, 1969 and Worthy, 1968). These transistorized devices can be built for around \$10.

Another solution to this problem is to use an ordinary cassette tape recorder to create tapes that specify desired intervals. The tape recorder allows the experimenter a certain degree of flexibility in the manner in which he records intervals. For example, a study by the author demanded that observations be made during alternate 10-sec intervals. The 10 sec of "free time" between intervals was used for writing and re-setting a stopwatch. In order to make easily discriminable observation intervals, an audible buzzer (Time-Aid #AT-450 by Paragon) was used in the following manner. A cassette tape recorder was prepared with a blank tape and microphone. The buzzer was turned on for 10 sec, off for 10 sec, on for 10 sec, and so on to the end of the last observation period, at which time the word "stop" was recorded.

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If a timer is desired that simply marks off intervals, a tape could be made as above, but without the buzzer, simply by using a voice recording of "one, two, three . . ." to mark off the intervals.

The observer may listen to the recording tape through the tape recorder's loudspeaker or through an earphone. Tape recorders are being built small enough to make this system completely portable. Independent observations for reliability purposes may easily be made by having both observers listening to the same timing tape.

Tapes may be made that would play for up to 60 min on each track by using easily obtainable C-120 cassette tapes that retail for between two and three dollars. Since recording tapes stretch with age, it might be advisable to examine the tape periodically to see that its intervals are still correct. Also, if using a portable tape recorder, the batteries must be fresh, as lowered battery voltage would slowdown the tape-recorder and create longer intervals.

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