

# Recording Behavior with Ease

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Observational data on student behavior, when gathered in a consistent fashion, can help teachers identify problems, verify the effectiveness of various interventions, and modify their ongoing behavior change strategies (Cooper, 1981). Teachers also weigh these data in making objective decisions about a student's present level of functioning, individualizing instruction, and verifying transfer of training to new settings (Cartwright & Cartwright, 1984).

Although it is not easy to obtain data through direct observations because they are typically recorded "on-line" during actual class time, it is possible to make the task less demanding. This Teacher's Notebook reviews the least burdensome observation measures and associated recording tools.

## Measurement Strategies

An appropriate match can be made between behaviors targeted for observation and appropriate measurement strategies after behaviors have been defined operationally, that is, described in observable, measurable terms (Bailey, 1977). The following questions clarify salient behavioral characteristics to aid teachers in choosing an appropriate measure and recording tool:

1. Is the target behavior discrete (i.e., does it have a discriminable beginning and end)?
2. Is the behavior uniform in duration?
3. Does the behavior endure for long segments of time or is it brief in duration?

The next sections use these questions as a guide in describing useful measurement strategies and associated examples of behavior.

## Frequency/Rate Measures

Counting a behavior's occurrence over time, often termed *event recording*, is an easy method of measurement (Billingsley & Liberty, 1982; Kerr & Nelson, 1983). Event recording accurately captures behaviors that are discrete, uniform in duration, brief, and repeatable. Each time a target behavior occurs, it is counted. Counting periods (the number of minutes allocated for observation) may be fixed or they may vary each day. The observed instances of the behavior divided by units of time yield a frequency or rate measure. Some typical behaviors appropriate for frequency or rate measures might include being out of seat, touching peers, and following directions.

The easiest way to record frequency is to maintain constant counting periods (e.g., record for 30 minutes every day). When counting periods cannot be kept constant, rate must be determined by dividing the varying number of minutes in the counting periods into the number of observed behaviors. This calculation permits comparison of data across unequal counting periods.

Event recording can be built in to an ongoing classroom point system or token economy. Frequency or rate data can be obtained by simply including a column on a point sheet for recording the target behavior or by counting tokens earned during each observation period.

The following recording tools can be used to ease the task:

- A wrist counter (Lindsley, 1968) or golf counter can be used to keep a cumulative count of a specific behavior. It can be manipulated easily and is relatively low in price. However, these devices are somewhat difficult to obtain.

- A grocery counter can also keep a cumulative count, is easily manipulated, and is relatively low in price. These devices are readily available and can be used to count high-frequency behaviors because of their four-digit capacity.
- An index card is a simple data collection tool. The observer makes a tally mark on the card each time the target behavior occurs.
- "Beads-in-a-pocket" is an event recording method by which an object is transferred from one pocket to another when a count is observed. The objects can be anything that is easily manipulated and readily available, for example, beads, coins, paper clips, or buttons (Haughton, 1974).
- A printing calculator can be used to record the counts of a number of different behaviors. Each target behavior is assigned a number code (e.g., out-of-seat = 1, talking-out = 4). After a behavior is observed, the code number is registered on the calculator. At the end of the counting period, the total count is taken of each code recorded on the printed tape. The count is divided by units of time and the rate for each behavior is calculated. An additional advantage is that a number of children can be observed and recorded using this system. Each child is assigned his or her own number code (e.g., Tommy = 1, Maria = 2). Using this method, 1.2 on the calculator tape, for example, would indicate that child number 1 exhibited behavior number 2.

## Duration Measures

Duration recording is used to evaluate how long particular behaviors last. Common behaviors measured with duration recording might include throwing tantrums, engaging in positive peer interactions, and exhibiting self-stimulatory behaviors.



A teacher uses a printing calculator to register a (+) or (-) indicating whether behavior occurred.

To use duration recording, the target behavior must be discrete so the observer can determine the behavior's beginning and end. Duration measures can be used to calculate the percentage of time that a behavior has occurred by dividing the time the target behavior occurred by the total observation time and multiplying by 100. Some tools for duration recording include the following:

- A timing instrument such as a stopwatch or sports watch can be turned on and off as the target behavior begins and ends (Bailey, 1977).
- A tape recorder can be used to record the duration of a behavior (e.g., throwing tantrums or swearing) by turning it on as the behavior begins. The duration of the incident can be calculated later. This measurement tool yields a permanent product.
- The amount of time students spend in time-out often must be documented. If the time in and time out are logged, then the duration of some target behaviors can be extracted from these records.

### Time Sampling

Time sampling (also termed *interval recording*) is a recording strategy used when it is not feasible to observe a student's behavior continuously or if the target behavior is not discrete. There are various types of time sampling, but only momentary time sam-

pling (Sulzer-Azaroff & Mayer, 1977), which is easily applied in the classroom, will be discussed here. Momentary time sampling does not require continuous observation and therefore places fewer demands on the observer than do event or duration recording.

Momentary time sampling is observation of the occurrence or non-occurrence of target behaviors only at the end of specific intervals of time (Bailey, 1977; Cooper, Heron, & Heward, 1987; Kerr & Nelson, 1983). For example, a teacher might observe a student's on-task behavior at the end of 5-minute intervals, yielding 12 observations in 1 hour. At the end of each interval, the observer observes whether the student is on-task or off-task and records a code (e.g., + = on-task, - = off-task) on a record sheet. The percentage of intervals that a behavior occurred is determined by dividing the number of intervals having coded behaviors by the total number of intervals observed and multiplying by 100.

The following devices make time sampling easier for the observer:

- A printing calculator can be used to register a + or - (or any other calculator symbol) at the end of a specified interval to indicate whether a behavior occurred.
- Blank tapes containing prerecorded audible cues at specified intervals are useful for timing intervals. Upon hearing each cue, the observer scans the room to see whether or not the

target behavior is occurring. The advantage of using a prerecorded tape is that the observer need not be concerned with close monitoring of a clock or watch and can attend to other classroom demands. Some sport watches have a count-down feature that emits an audible cue at the end of an interval. The watch can be reset to repeat the sequence.

### Permanent Products

In addition to the strategies already mentioned, an easy method of recording certain valued behaviors uses permanent product outcomes (Bailey, 1977; Kerr & Nelson, 1983). Often counting the number of math problems completed correctly, pages read, or assignments accurately finished reflects whether a student has been on- or off-task. When behaviors do not produce permanent products, "on-line" observations must be obtained.

### Conclusion

Initial effort and planning are needed to prepare data sheets, obtain equipment, and work out a routine for recording a particular behavior. For example, a teacher might record behavior on a printing calculator in the morning and not have an opportunity to count and chart the coded data until the next planning period. When possible, teachers should train paraprofessionals, volunteers, and selected students to observe and record. Delegating recording activities eases the demands on teachers' time and increases their observation capabilities. When observing and recording become routine, objective professional decisions can be made with ease.

### References

- Bailey, J. S. (1977). *A handbook of research methods in applied behavior analysis*. Tallahassee, FL: Florida State University.
- Billingsley, F. F., & Liberty, K. A. (1982). The use of time-based data in instructional programs for the severely handicapped. *The Journal of the Association for the Severely Handicapped*, 7, (1), 47-55.
- Cartwright, C. A., & Cartwright, G. P. (1984). *Developing observation skills* (2nd ed.). New York: McGraw Hill.
- Cooper, J. O. (1981). *Measuring behavior* (2nd ed.). Columbus, OH: Charles E. Merrill.
- Cooper, J. O., Heron, T. E., & Heward, W. L. (1987). *Applied behavior analysis*. Columbus, OH: Charles E. Merrill.

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Haughton, E. (1974). Myriad counter (or beads that aren't for worrying). *TEACHING Exceptional Children*, 6, 203-209.

Kerr, M. N., & Nelson, C. M. (1983). *Strategies for managing behavior problems in the classroom*. Columbus, OH: Charles E. Merrill.

Lindsley, O. (1968). Technical note: A reliable wrist counter for recording behavior rates. *Journal of Applied Behavior Analysis*, 1, 77-78.

Sulzer-Azaroff, B., & Mayer, R. G. (1977). *Applying behavior analysis procedures with children and youth*. New York: Holt, Reinhart & Winston.

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