

Collecting Observational Data

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The purpose of this paper is to provide information for practitioners using observation for special education evaluations, including initial and re-evaluations, functional behavioral assessments (FBA), and monitoring IEP (Individualized Education Program) and BIP (Behavior Intervention Plan) progress. Observational procedures for research purposes are often more demanding and these suggestions are for practitioners and not meant to meet a research standard.

Collecting data involves a variety of techniques, including both direct and indirect methods. Examples of indirect data collection include interviews, record review, and examination of permanent work products. This booklet focuses on observational data, which is a direct method of data collection. When collecting information, it is important to use multiple sources and methods, and to triangulate¹ the data collected. No one method stands alone.

Behavior always occurs in a *context*, and observing in that context is critical for defining and understanding the behavior. Observations may also help to identify the antecedents (what happens before the target behavior) and consequences (what happens after the target behavior) so that meaningful behavioral interventions can be developed. The data we collect during systematic classroom observations is used as a baseline, and/or present level of performance for an IEP. We might also use the data to evaluate whether or not an intervention is working. Observation is one method for collecting data for an FBA in order to answer the questions “*what function is the behavior serving for the student?*” or “*what is the student trying to communicate to us through the behavior?*” Thus, collecting data related to teacher and/or peer responses to the target student behavior is also important because that attention may be reinforcing the inappropriate behavior.

Remember that observations can be formal or informal – while you are in a school building, you are constantly seeing students in the various settings within that building. Be sure to consider the hallways, cafeteria, media center, gymnasium, a variety of classrooms, and the outside school campus. The information is also helpful in giving you a basic picture of how the building runs, and how a variety of students might react in different situations and settings.

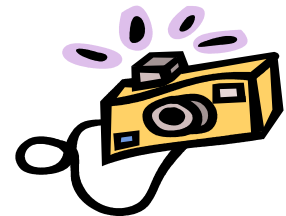
Keep in mind that observations are only snapshots of the setting and of the behavior. Students may be aware they are being observed and may be on their best behavior. If this is the case, you can still gather useful information on the environment, and you will also know that the student has some idea of when to behave appropriately. On the other hand, the student may want to show-off for the new audience (i.e., the observer). There may be times of the day, days of the week, and/or specific activities that may be especially positive or stressful for the student. Observations can not stand alone, and should be combined with information from interviews, record reviews, and formal and informal testing when evaluating a student.

Getting Ready to Observe

- What is your purpose for observing?
 - Baseline
 - Data for developing an FBA/BIP
 - Monitoring IEP progress
 - Monitoring behavior change
 - Evaluation/re-evaluation including determining special education needs
- What do you know already?

¹ Collect at least 3 sources of information that corroborate each other.

- What have you already seen for yourself as you walk through the building, are in the lunchroom, before and after school?
- What existing information do others have?
- What additional background information do you want?
 - What activities will be going on while you are in the room? Is a new skill being introduced, or will the lesson focus on reinforcing previously presented information?
 - Will students be in large group, small group, working individually?
 - What are the classroom rules and expectations?
 - How does the target student typically behave during that time?
- Encourage the teacher to conduct business as usual, including consequences for inappropriate behavior. Ask how you should respond to students who may approach you or want to talk to you. It might be helpful for the teacher to acknowledge your presence and say that you are there to see how the class works (or something to that effect).
- Try not to disrupt the classroom routine – enter and leave at break times (e.g., lunch, recess) or at a change of activity.
- Ask the teacher about the concern or inappropriate behavior that has triggered the need for observation. Define the target behavior(s) clearly. For example, does “out of seat” mean the student must be completely out of the desk, or can the student be on his/her knees yet still “in” the chair? Be more precise than “aggressive behavior” by clarifying that it means hitting, kicking, or pinching. This determines what you will tally and what you will ignore. You are looking for specific, observable behaviors. See page 12 for suggestions on defining behavior.
- What dimensions of behavior are relevant or applicable in this case?
 - Frequency – how often does it occur?
 - Topography – what is the description of the behavior, what does the behavior look like?
 - Duration – how long does the behavior last?
 - Latency – how long is it between the time a student is given a directive and the time he/she began the action requested?
 - Magnitude – what is the force or power of the behavior?
 - Locus – what is the location?



During the Observation

General hints

- Check your biases and value judgments at the door – it may not be your style of teaching or preference for an approach, but you are there to collect objective data and to report on what you see and hear.
- Describe what you see in concrete terms. Jot down some general information about the classroom as you begin your observation: what is the physical set-up? are students squeezed together or do they have elbow room? how many students are there? what about natural distractions such as noisy heaters, windows overlooking a busy street, or hallway traffic? what is the teacher’s teaching style (e.g., lecture, hands-on activities, mixed media)? how does the teacher respond to misbehavior? how does the teacher reward or reinforce students? do students seem to know what they are expected to do, or do they have to be reminded? are teacher directions clear and understandable? are students passive learners, or are they actively involved in lessons? how many adults are there in the classroom? are students in and out for various activities? is there a lot of moving around the classroom or are students generally in their chairs? is the environment conducive to learning? is it a required class or an elective?

are there interruptions such as daily announcements? are there any safety issues (e.g., scissors or other sharp tools readily available, objects that could be thrown, broken equipment or furniture)?

- Observe across settings and at a variety of different times. Be sure to include some times and settings in which the student is successful. Instead of observing for 2 hours during the morning, for example, it may be more useful to break the time into smaller blocks. After 20 minutes of observation, the accuracy of the data tends to decrease². “Observer drift” is the tendency of observers to change the stringency with which they apply operational definitions and may result in recording instances of behavior that do not conform to the operational definition³. The observations could take place at different times of the day, different days of the week, and during different activities such as academic classes, recess or lunch, and so on. When observing the student in settings where behavior is not a problem, try to identify the features of that context that support success and appropriate responses. Multiple observations also help give you a clearer picture of the behavior, rather than a one-time snapshot.
- Keep your recording system as simple as possible so that you can efficiently record information and decipher your notes later. It takes some practice to determine what method works for you, and to develop some shorthand codes such as “o” for out-of-seat or “p” for playing with an object without permission. Obviously, if you try to write things out in long hand, you will miss a lot of the action. You might want to use graph paper to easily create some simple charts.
- When observing a particular student, it is helpful to collect data on a second student of the same sex so that you can more objectively compare the incidents of misbehavior. If several students are wandering around the classroom, there may be a more general classroom management problem. If you know what the average out-of-seat time is for other students, you can compare the student in question to see if it really is a significant concern.

Collecting data: There are many different ways to collect data during an observation, and the more commonly used procedures are described below. Choosing which method to use may depend on your personal preference, the purpose of the observation, and the type of behavior being targeted. In some instances, you might want to use more than one method. For example, you might start with a narrative of the general classroom environment, the lesson or activity in progress, and the teaching style. Then you might do a time-sample to focus in on particular behaviors. Some sample formats and grids are attached, beginning on page 14.

If a behavior is so infrequent that you probably will not see it in a 20-30 minute observation period, direct observation may not be the data collection system to choose. You still may wish to observe the classroom to get a picture of the physical environment and an overview of the class dynamics. Indirect data collection (e.g., interviews, review of existing information including records and work samples) may be more reasonable for documenting specific, infrequent student behaviors.

Narrative recording: this involves taking notes and simply writing down what occurs. It is not quantitative - there is no behavior count or number as a result. It is time consuming, but can be useful in providing a general description or detail (e.g., when Johnny tantrums, he drops to the floor face-down, screams, and flails his arms and legs; students sit in groups of 4 desks pushed together and facing one another).

² Van Acker, Grant, & Getty

³ Alberto & Troutman

A-B-C: divide your paper into 3 columns – “A” for “antecedent” in which you will record what preceded or precipitated the behavior; “B” for “behavior” which describes what the student did; and, “C” for “consequence” or what followed the behavior. The consequence for one behavior may serve as an antecedent for the next behavior, so you will have a running “stream” of actions. This format is useful for collecting data for an FBA. You can analyze the results and plan to prevent or avoid maladaptive behavior by manipulating the antecedents, and you can also intervene by altering the consequences. See page 11 for a sample of a completed A-B-C chart.

Scatter plot: a scatter plot is a good screening tool to determine when and where a behavior is likely to occur. See pages 9 for a sample format and page 10 for a completed example. Use event recording to tally the number of times a behavior occurs over the course of the day and week. You will then be able to look for patterns across days of the week, times of the day, activities, and so on. This information will help you determine some times and activities that might be most useful for gathering more detailed data. Be sure to include periods when the student is successful as well as problem times. Since this involved simply counting a behavior, it’s possible for a teacher to gather this information while teaching. Keep a running tally with slash marks in a corner of your teacher’s manual or other papers you may have in hand, put a strip of tape on your cuff and tally on that, put beans or coins in one pocket and transfer one to another pocket each time the behavior occurs – find a way that works for you.

Event recording: **counting the number of times** a specific behavior occurs during a given time period. Event recording is the easiest and most accurate method of data collection. The behavior you are tallying must have a clear beginning and end, take about the same amount of time whenever it occurs, and can be distinguished from another event or behavior. For instance, the observer tallies the number of times during a lesson that a student raises his/her hand. Event recording is not appropriate when the behavior occurs so often that it is difficult to count accurately, or if the behavior lasts for an extended period of time. With the latter, a tally does not accurately define the behavior. For example, if a student is out of his/her seat, the count might only be one, but it is important to know whether the time interval was 2 minutes or 20 minutes.

Duration and latency recording: duration recording measures **how long** a particular behavior lasts. An example would be a temper tantrum, where you may wish to know not only whether it happened, but how long it went on. It is more useful to know that a student was out of his/her seat for 20 minutes at a time, rather than just knowing that the behavior occurred. Latency recording documents the **amount of time between behaviors**. For instance, you might time the interval between the teacher giving a direction and the student complying with the request. Another example of latency recording would be to see how long the student remains in his/her seat before the next incident of wandering around the classroom.

Momentary time sampling (a type of interval recording to estimate the duration of a behavior):

divide the observation time (generally between 10 minutes and 1 hour) into equal intervals (perhaps 2 minutes or another consistent interval), and then **record whether or not the behavior occurs at the very end of each interval**. You get an estimate of the duration or percent of time a behavior occurs. If you use simple symbols such as +/- or ✓/0 recording, it is easy to keep notes. You will need a watch or clock with a second hand, a tape that beeps at regular intervals, or a timer set to vibrate at set



intervals. Interval recording is not an exact count of the number of times a behavior occurs, since it might happen twice during the interval, but you are only tallying whether (or not) it happened at the end of the interval. If you use interval recording, you can see the approximate number of times the behavior occurred, and the approximate length of time the behavior lasted (e.g., over 3 intervals, for just 1 interval). Be aware that when you look down to record, you may miss something.

After the Observation



Reporting the information

Once you have collected the data over the course of several observations, you will need to analyze the information you have. It may be helpful to graph the information or write summary narratives. Some people like to use different colors for lines on a graph or entries on a chart once they have multiple observations over time. This provides a visual summary of progress as well as a quick comparison of several snapshots. Your data can serve as a basis for your hypothesis about the function of behaviors, as a baseline for developing a present level of performance for an IEP, as a measure of progress for evaluating intervention plans and IEP progress, as information for either a special education or a 504 evaluation report, and so on. Simply gathering and reporting observational data is only half the task; you also need to analyze and synthesize the information you have. You will then have data-driven documentation to support programming decisions.

Following are some suggestions for good report writing:

A good report:

- defines a subject or problem;
- presents data as accurately as possible;
- may include analysis, judgment, conclusions, recommendations;
- is useful for informing, explaining, and persuading;
- is understandable to all readers.

Before you begin, ask yourself:

- who will read this report?
- why is it being written?
- what do I need to cover/not cover?
- what conclusions can be drawn from my information?
- what do I recommend as a result of my information?

Writing hints

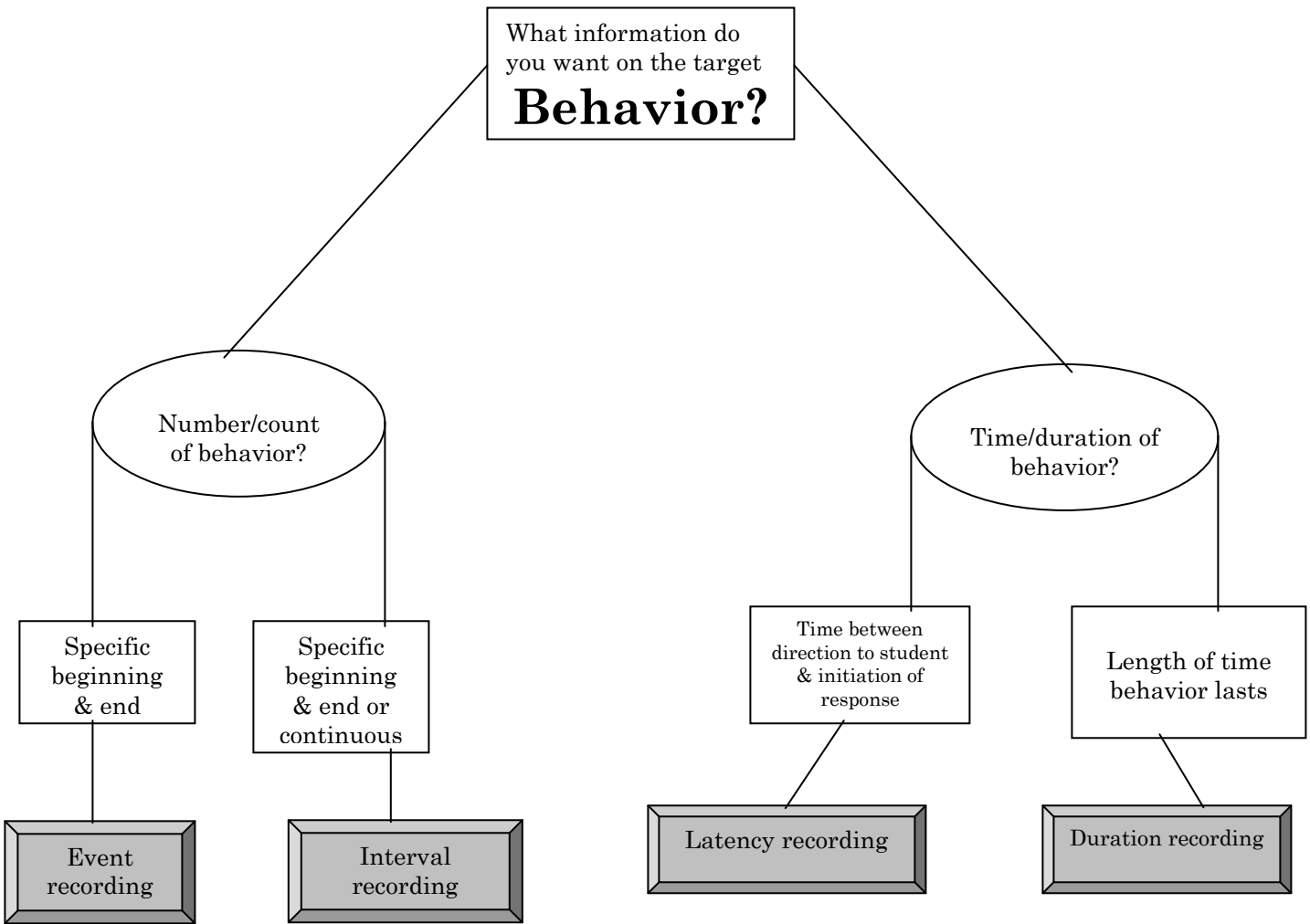
- Put the most important information first;
- Use headings for each section to make it easier for readers to find specific information;
- Break information up rather than having 1 big block of narrative;
- Explain technical terms and meaning of scores reported;
- Spell out abbreviations and acronyms, including full titles of tests, rating scales, etc.;
- Explain what scores, numbers mean – the significance of the data;

- Connect evaluation data to educational interventions; report the findings that will assist with program planning⁴;
- Use an outline such as this:
 - Demographic information
 - Reason for the report
 - Background information
 - Evaluation methods (testing, observation, interviews, etc.)
 - Results (overall & specific subtests)
 - Strengths
 - Deficits
 - Recommendations
- Proofread;
- Consider omitting a summary – it makes the report longer and readers tend to skip the report itself and go right to the summary if one is included, thereby missing important information.⁵

⁴ §115.782(2)(e), Wis. stats. IEP Team Participant Summary of Findings.

⁵ Bradley-Johnson & Johnson

SELECTING A RECORDING PROCEDURE



Adapted from: Alberto & Troutman, pg. 131

Functional Assessment Scatter Plot

Student: _____ **Grade:** _____ **School:** _____
Dates of observation: _____ to _____ **Observer(s):** _____
Target behavior(s): _____

Activity	Time	Day of the Week					Total
		Monday	Tuesday	Wednesday	Thursday	Friday	
Total							

Source: Touchette, Macdonald & Luce

Functional Assessment Scatter Plot - Sample

Student: Ricky Michaels **Grade:** 4 **School:** Lincoln **Dates of observation:** 1-17-05 to 1-21-05

Target behavior(s): Disruptive behaviors such as talk-outs, making noises that others can hear, threatening, out-of-seat

Activity	Time	Day of the Week					Total (Rate/Min)
		Monday	Tuesday	Wednesday	Thursday	Friday	
Opening	8:25 – 8:45	2	0	0	2	2	6 (.3/min)
Daily Oral Language	8:45 – 9:00	7	10	9	8	9	43 (2.9/min)
Reading groups/independent seat work	9:00 – 10:15	10	7	5	6	9	37 (.5/min)
Recess	10:15 – 10:35	3	5	3	4	2	17 (.85/min)
Math	10:35 - 11:20	0	3	1	1	3	8 (.18/min)
Social Studies	11:20 – 12:05	2	4	3	3	0	12 (.27/min)
Lunch	12:05 – 12:45	2	4	2	0	2	10 (.25/min)
Silent reading	12:45 – 1:00	0	0	1	1	0	2 (.008/min)
Art/Music	1:00 – 1:45	2	0	0	1	0	3(.07/min)
Science	1:45 – 2:30	1	1	0	0	0	2 (.04/min)
Language Arts	2:30 – 3:15	4	5	3	6	2	20 (.44/min)
Total		33	39	27	32	29	160

Source:

R.

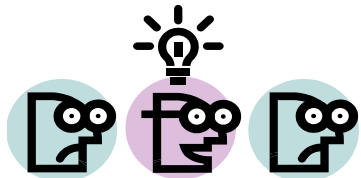
Van

Acker

A-B-C data sample (source: R. Van Acker)

Student: Ricky Michaels **Grade:** 4 **School:** Lincoln Elementary **Date of observation:** 1/25/05
Activity: Reading groups – teacher working with a small group on a rotating basis while other students work independently on dinosaur worksheets and journal entries.
Time of day: 9:15 a.m. **Behavior of concern:** Teachers says Ricky is “disruptive” but pestering other students and interrupting instruction with talk-outs and off-task remarks.

<i>Antecedent</i>	<i>Behavior</i>	<i>Consequence</i>
<p>Teacher tells students to move their desks apart so that they do not interfere with each other. She says that she will be calling groups up to the front table for reading one group at a time. She says that while they are waiting for their group, students have 3 worksheets to complete.</p>	<p>Other students move their desks as directed, but Ricky is playing in his seat. He leans over and pulls the desk of the girl next to him closer to his desk. (Note: Ricky’s desk is already set apart from the other students).</p>	<p>The girl tells Ricky to leave her desk along and pulls it away. The teacher does not respond to the incident.</p>
<p>The teacher calls the first group to the front, and that includes Ricky.</p>	<p>Ricky picks up his book and moves to the front of the room, sitting closest to the teacher.</p>	<p>The teacher tells the students to open their books to page 56.</p>
<p>Ricky begins to read out loud even though he was not asked to do so.</p>	<p>The teacher asks Ricky to wait until he is called on.</p>	<p>Ricky stops reading aloud and begins to hum.</p>
<p>Ricky continues to hum and make growling noises. Only those students in the reading group at the front can apparently hear him.</p>	<p>Teacher says “Ricky, stop it now. You’re bothering the others.”</p>	<p>Ricky stops and says “Can I read now?”</p>
<p>Ricky says “Can I read now?”</p>	<p>The teacher indicates that he needs to wait.</p>	<p>Ricky sits quietly.</p>
<p>The teachers asks Ricky to read the next 3 paragraphs of the story.</p>	<p>Ricky begins to read in a very loud voice that can be heard across the room (other students look up from their work).</p>	<p>The teacher and others students in the reading group listed to Ricky read. He makes no errors.</p>
<p>The teachers thanks Ricky for reading when he has finished. The teacher calls on the next student to read the next 3 paragraphs.</p>	<p>Ricky listens, and when the student hesitates over a word, he gives the correct word.</p>	<p>The teacher says, “Ricky, stop that. Give Becky a chance.”</p>
<p>Ricky begins to rock back and forth in his chair. He starts pulling books off the bookshelf behind him as he rocks back, and drops them on the floor as he rocks forward.</p>	<p>The teacher tells Ricky to pay attention and follow along.</p>	<p>Ricky says “Can I read again?”</p>
<p>Ricky says “Can I read again?”</p>	<p>The teachers tells him he must wait for his turn.</p>	<p>Ricky rolls his eyes, looks up at the ceiling, and flops back in his chair.</p>
<p>The teacher ends the reading group.</p>	<p>As Ricky is returning to his desk, he stop next to Becky’s desk, strikes a boxing stance, and makes boxing motions as though he intends to punch her.</p>	<p>Becky flinches.</p>
<p>Becky flinches.</p>	<p>Ricky laughs.</p>	<p>The teacher says “Ricky, that is just about enough! Sit down right now!” Ricky slams his book down on the top of the desk, folds his arms and says “I am done for today!”</p>



Hints for Defining Target Behaviors

A clear definition of the target behavior is important. When gathering data, you need to be clear about which behaviors will be tallied. Everyone working with the student should understand the definition of the behavior, and the parameters should be clear. For example, do we all have the same understanding for “profanity”? How will we know if the student is “off task” – everyone looks up from their paper now and then, we all have to pause to gather our thoughts, so when does it become problematic? A clear definition also helps you document progress, but you must be comparing apples-to-apples. Here are some tips for developing clear definitions.

- Describe what you see or hear; what the student says or does - avoid labels (“he’s a bully” or “she’s disruptive”). Be precise and use action verbs.
- Be objective - stay away from emotions or values (“she was angry” or “he was frustrated”).
- Here are several useful tools⁶:
 - *The stranger test* – would someone who is not familiar with the student be able to read the definition of the behavior and understand it? Could a stranger walk into a classroom to observe and record data and have that data be comparable to what the teacher would collect?
 - *The so-what test* – is it important to change this behavior? Should this be a priority at this time? Is the behavior harmful to the well-being of the student or others? If the behavior is not maladaptive now (e.g., the student is in a self-contained program), is it potentially maladaptive in other environments? Ask yourself (a) is the behavior in the student’s best interest? and, (b) is the behavior part of a “fair pair”?
 - *Fair pairs* - what positive behavior is going to replace the maladaptive behavior you intend to weaken or eliminate? What “pair” of behaviors will you identify?
 - *The dead man’s test* - can a “dead man” do it? If he can, then it’s not a “fair pair” behavior. For example, the student hits others and you want him to “not hit others.” A dead man can “not hit others” and so it is not a fair pair. It might be better to say that you want the student to “ask for what he wants (rather than hitting).”

Remember - defining the target behaviorally may not be faster but it is more accurate.

⁶ Kaplan and Carter

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