CASE STUDY UNIT
Created by
Sara C. Bicard, PhD, Auburn University at Montgomery
David F. Bicard, PhD, Behavior Analysis of Central Alabama, LLC
iris.peabody.vanderbilt.edu or iriscenter.com
Serving: Higher Education Faculty • PD Providers • Practicing Educators
Supporting the preparation of effective educators to improve outcomes for all children, especially those with disabilities, birth through age 21
Defining Behavior

Contents:

<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Licensure and Content Standards</td>
<td>ii</td>
</tr>
<tr>
<td>Introduction</td>
<td>iii</td>
</tr>
<tr>
<td>Case Study Level A, Case 1</td>
<td>1</td>
</tr>
<tr>
<td>Case Study Level A, Case 2</td>
<td>2</td>
</tr>
<tr>
<td>Case Study Level B, Case 1</td>
<td>3</td>
</tr>
<tr>
<td>Case Study Level B, Case 2</td>
<td>4</td>
</tr>
<tr>
<td>Case Study Level C, Case 1</td>
<td>5</td>
</tr>
<tr>
<td>Case Study Level C, Case 2</td>
<td>6</td>
</tr>
<tr>
<td>STAR Sheet: Overview</td>
<td>7</td>
</tr>
<tr>
<td>STAR Sheet: Use Observable Terms</td>
<td>9</td>
</tr>
<tr>
<td>STAR Sheet: Use Measurable Terms</td>
<td>11</td>
</tr>
<tr>
<td>STAR Sheet: Use Positive Terms</td>
<td>13</td>
</tr>
<tr>
<td>STAR Sheet: Be Clear, Concise, and Complete</td>
<td>15</td>
</tr>
</tbody>
</table>

For an Instructor’s Guide to this case study, please email your full name, title, and institutional affiliation to the IRIS Center at iris@vanderbilt.edu.

To cite this Case Study Unit:

Licensure and Content Standards

This IRIS Case Study aligns with the following licensure and program standards and topic areas.

Council for the Accreditation of Educator Preparation (CAEP)
CAEP standards for the accreditation of educators are designed to improve the quality and effectiveness not only of new instructional practitioners but also the evidence-base used to assess those qualities in the classroom.

- Standard 1: Content and Pedagogical Knowledge

Council for Exceptional Children (CEC)
CEC standards encompass a wide range of ethics, standards, and practices created to help guide those who have taken on the crucial role of educating students with disabilities.

- Standard 4: Assessment

Interstate Teacher Assessment and Support Consortium (InTASC)
InTASC Model Core Teaching Standards are designed to help teachers of all grade levels and content areas to prepare their students either for college or for employment following graduation.

- Standard 6: Assessment

National Council for Accreditation of Teacher Education (NCATE)
NCATE standards are intended to serve as professional guidelines for educators. They also overview the “organizational structures, policies, and procedures” necessary to support them.

- Standard 1: Candidate Knowledge, Skills, and Professional Dispositions

The Division for Early Childhood Recommended Practices (DEC)
The DEC Recommended Practices are designed to help improve the learning outcomes of young children (birth through age five) who have or who are at risk for developmental delays or disabilities.

- Topic 1: Leadership
Before they begin instruction, teachers must define the skills and knowledge that they expect students to learn. Similarly, teachers must identify the behaviors they expect their students to engage in during instruction. When students do not engage in these expected behaviors, teachers need to be able to objectively define the expected behaviors and the behaviors that need to be changed. Once defined, these behaviors can be measured.

What is behavior?

Behavior is something that a person does that can be observed, measured, and repeated. When we clearly define behavior, we specifically describe actions (e.g., Sam talks during class instruction). We do not refer to personal motivation, internal processes, or feelings (e.g., Sam talks during class instruction to get attention).

Why define behavior?

A prerequisite for measuring behavior is to be able to operationally define the target behavior (i.e., the behavior to be changed or the problem behavior) as well as the desired behavior. Being able to operationally define a behavior is important because it helps teachers to:

- Collect data on the behavior, either by observing the student or by asking others about the student
- Collect accurate information about when the behavior occurs
- Optimize the available services or supports for data collection
- Focus on the interaction between the environment and student instead of assuming that innate issues are the behavior’s source (e.g., “He’s a troubled kid.”)
- Describe what they want their students to do in an unmistakable manner so that others can assist in their efforts
- Design an appropriate intervention
- Determine whether the behavior has changed once an intervention has been implemented
- Write individualized education program (IEP) behavioral goals and objectives, conduct functional behavior assessments, and communicate with others (e.g., parents, other teachers, guidance counselors)

Note: This case study unit is concerned solely with defining behavior. To learn about methods for measuring behavior and about conducting a functional behavioral assessment, see the following IRIS resources:

Case Study Unit: Measuring Behavior

Module: Functional Behavioral Assessment: Identifying the Reasons for Problem Behavior and Developing a Behavior Plan
Resources...


Defining Behavior
Level A • Case 1

Background
Student: Greyson
Age: 10
Grade: 4th

Scenario
Mr. Robertson is a member of the student support team at Delroy Elementary School. He and his colleagues have reviewed a pre-referral intervention form for Greyson. However, they are not quite sure why his teacher, Mrs. Nichols, has referred him. Mrs. Nichols stated on the referral form that Greyson’s problem behavior is that he reads below grade level. She states that the desired behavior is for Greyson to read better 100% of the time. When asked to clarify her description of Greyson’s target and desired behaviors, Mrs. Nichols states that Greyson is reading at a first-grade level and needs to read grade-level text fluently.

Possible Strategies
• Use positive terms
• Use measurable terms
• Be observable
• Be clear, concise, and complete

Assignment
1. Read the STAR Sheet Overview.
2. Read the STAR Sheets for the strategies listed above.
3. Use the table below to complete the following:
   • Identify Ms. Nichols’ definitions of Greyson’s target behavior and the desired behavior. Write each in the designated cell in the first row of the table.
   • For each definition, determine whether it meets each of the listed criteria. If it does, circle the check mark, if not, circle the x.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Target Behavior Definition: ____________________________</th>
<th>Desired Behavior Definition: ____________________________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stated in Positive Terms</td>
<td>✓ x</td>
<td>✓ x</td>
</tr>
<tr>
<td>Measurable</td>
<td>✓ x</td>
<td>✓ x</td>
</tr>
<tr>
<td>Observable</td>
<td>✓ x</td>
<td>✓ x</td>
</tr>
<tr>
<td>Clear, Concise, and Complete</td>
<td>✓ x</td>
<td>✓ x</td>
</tr>
</tbody>
</table>
Background

Student: Raúl
Age: 12
Grade: 6th

Scenario

“I ain’t doin’ that!” Raúl yells before he walks out of the classroom. Mrs. Banks, his teacher, steps into the hallway and says, “Raúl, you need to cool off then come back inside.” Raúl shrugs and replies, “Aw, man.” He looks around and begrudgingly walks back into the classroom. Raúl has received ten office discipline referrals (ODR) in the past three weeks. Mrs. Banks stated on the ODRs that Raúl is disrespectful. The Schoolwide Positive Behavior Support Team has looked at Raúl’s ODRs to determine what the issue is and which intervention might prove beneficial.

Possible Strategies

- Use observable terms
- Use measurable terms
- Be clear, concise, and complete
- Use positive terms

Assignment

1. Read the STAR Sheet Overview.
2. Read the STAR Sheets for the strategies listed above.
3. Identify Mrs. Banks’ definition of Raúl’s target behavior. Is the definition stated in positive terms? Is it measurable, observable, and clear, concise, and complete?
4. What additional information should the Schoolwide Positive Behavior Support Team seek from Mrs. Banks when trying to create a behavioral definition?
Background

Student: Tiffany
Age: 4
Grade: Preschool

Scenario

A preschool teacher consults with the school director about a new student, Tiffany. Ms. Leigh tells the director that Tiffany has temper tantrums and gets out of control in the classroom. The director states that she will convene a team consisting of herself, Ms. Leigh, the behavior specialist, and the school counselor. Ms. Leigh agrees to write a definition of the target behavior for the team to review. She gets back to her classroom and finds it much more difficult to specifically say what Tiffany does. She is puzzled about how difficult it is. She has seen these temper tantrums every day twice a day for the past two weeks! Why can’t she write about it? She provides the following definition to the team the next day:

Tiffany engages in temper tantrums during transition time prior to large group activities. She is not aggressive toward other children, only adults in the classroom.

Possible Strategies

• Use positive terms
• Use observable terms
• Use measurable terms
• Be clear, concise, and complete

Assignment

1. Read the STAR Sheet Overview.
2. Read the STAR Sheets for the strategies listed above.
3. What elements of an operational definition are not included in Ms. Leigh’s definition?
4. Is it possible to write an operational definition? Explain why or why not?
Background

Student: Felicia
Age: 17
Grade: 12th

Scenario

Mr. Brown has had it with Felicia! He completed the paperwork to refer her to the school’s student-support team a few weeks ago, and he finally has a meeting with the team this afternoon. He cannot wait to find out what he can do to get Felicia back under control in his class. The meeting starts promptly after school. Asked to explain Felicia’s problems, Mr. Brown says, “I can’t get her to do anything! She won’t be quiet during my lesson. During independent work, she won’t do her work. Instead, she looks out the window. She can’t read on grade level.” A team member asks Mr. Brown what he would like for Felicia to do instead. He ponders this for a moment then responds, “I would like for her to be on-task and perform on grade level.”

Possible Activities

- Use observable terms
- Use measurable terms
- Use positive terms
- Be clear, concise, and complete

Assignment

1. Read the Overview.
2. Read the STAR Sheets for the strategies listed above.
3. List the three target behaviors that Mr. Brown identified for Felicia. Explain why you think each of these definitions is sufficient or insufficient.
4. List the two desired behaviors that Mr. Brown identified for Felicia. Explain why you think each of these definitions is sufficient or insufficient.
5. Choose one of the target behaviors Mr. Brown refers to and rewrite its definition to make it an operational definition.
Defining Behavior
Level C • Case 1

Background

Student: Tony
Age: 16
Grade: 11th

Scenario

Tony’s behavior has warranted a functional behavioral assessment. The special education teacher interviews two of
Tony’s general education teachers to find out more about his inappropriate behavior. The special education teacher
starts by asking Tony’s literature teacher why she referred him to the office. “He was late for class three times this
week and didn’t have his homework,” she exclaimed. The special education teacher probes further, asking, “How
late was he?” The teacher responds, “The tardy bell was ringing as he walked into the room. We had to wait on
him to get out his notebook and pencil before we could start class.” Tony’s geometry teacher offered a similar
reason for sending him to the office: “He was tardy every day this week. I was tired of it today and said something
to him about it. Tony snapped and went off on me in front of the class. He’s been coming in about 5 minutes after
the bell rings. He sits right down and then has the nerve to ask me to borrow a pencil or paper, like he didn’t do
anything wrong.”

Assignment

1. Read the Overview.
2. Read the STAR Sheets.
3. Is there sufficient information from the teachers to create an operational definition for all the behaviors
   mentioned? Explain why or why not.
4. Combine the information gathered from both teachers to create an operational definition for one of Tony’s
   inappropriate behaviors.
Background

Student: Stephanie
Age: 9
Grade: 4th

Scenario

Ms. Morton, Stephanie’s resource teacher, has just returned to her room after a conference with Stephanie’s general education teachers. She’s looking over her notes from the meeting and wonders how she will ever be able to address all of the issues that the other teachers raised. Defiant, disrespectful, off-task—she heard these things over and over from the teachers. Yet Stephanie has never acted this way with Ms. Morton. Ms. Morton decides to ask the teachers for some more examples of Stephanie’s behaviors. Ms. Morton sends the teachers a note stating, “Please describe and count Stephanie’s inappropriate behaviors this week so I can better understand the problem.” On Friday afternoon, she receives the following lists from the teachers.

**Mrs. Taylor - Math**
- Talked back to me (4 times)
- Didn’t listen (13 times)
- Tried to make me mad (8 times)
- Blatant disregard for my authority (20 times)

**Mr. Alford - Social Studies**
- Getting out of seat to sharpen pencil w/out permission (3 times)
- Teased other students, even after told to stop (1 time)
- Yelling in the library (2 times)
- Called me by my first name (3 times)
- Rolled her eyes when corrected (2 times)
- Started her work three or more minutes after being told to begin (9 times)

**Mrs. Gonzalez - Science**
- Staring out the window (18 times)
- Writing notes to friends (4 times)
- Didn’t do her work when asked (10 times)

**Assignment**
1. Read the Overview.
2. Read the STAR Sheets.
3. Using the information gathered from all teachers, create an operational definition for each problem behavior mentioned by Stephanie’s general education teachers:
   a. Defiant
   b. Disrespectful
   c. Off-task
STAR Sheet

Defining Behavior
Overview

What a STAR Sheet is...

A STAR (STrategies And Resources) Sheet provides you with a description of a well-researched strategy that can help you solve the case studies in this unit.

What It Is

Defining a student’s behavior is a prerequisite for measuring a student’s behavior. The best way to define a student’s behavior is to create an operational definition. In an operational definition, a behavior is explicitly or clearly defined such that it is measurable, can be identified by two or more observers, and can be identified across time and in different settings or contexts.

How do you define behavior?

A problem or target behavior is the behavior the teacher wants to change. It is typically a behavior or skill that occurs either more often than desired or less frequently than desired. In addition to identifying a behavior, the teacher might find it beneficial to identify a replacement or desired behavior. The replacement behavior is the behavior the teacher wants the student to engage in.

Note: In some cases, it is beneficial for teachers or other school personnel to determine the function of the target behavior before identifying a replacement behavior (e.g., when conducting a functional behavioral assessment). For illustrative purposes, we are simply focusing on operationally defining the behaviors without considering the function of the behavior.

<table>
<thead>
<tr>
<th>Target Behavior</th>
<th>Replacement Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisa gets out of her seat too often.</td>
<td>Lisa will remain in her seat during instruction.</td>
</tr>
<tr>
<td>Joey breaks pencils when he gets frustrated.</td>
<td>Joey will request a break when he feels frustrated.</td>
</tr>
<tr>
<td>Shawn talks in class without raising his hand.</td>
<td>Shawn will raise his hand before speaking in class.</td>
</tr>
</tbody>
</table>

Tips for Implementation

Once the teacher has identified the target and the replacement behaviors, he or she must create operational definitions of these behaviors. The general education teacher, classroom aide, principal, and any other observer should be able to use the operational definition to identify the behavior whenever and wherever it occurs.

In order to produce an operational definition, it is beneficial for a teacher to:

- Describe the behavior in an observable manner
- Describe the behavior in measurable terms
- Define the behavior in positive terms
- Be clear, concise, and complete

http://iris.peabody.vanderbilt.edu
The purpose of defining behavior is not to determine why the student is engaging in the behavior, but to describe the form of the behavior.

Examples of Operational Definitions

Example 1:

Target behavior – The student does not do his classwork.
Operational definition of the target behavior – The student frequently talks to peers, does unassigned tasks, or calls out for help. If the teacher does not intervene, these behaviors will escalate to yelling, crying, and throwing objects.

Replacement behavior – The student will complete his classwork.
Operational definition of the replacement behavior – The student’s eyes are on the assignment, student raises hand for help, writing is task-related, the materials used are task-related, and teacher directions are followed.

Example 2:

Target behavior – The student does not pay attention in class.
Operational definition of the target behavior – The student looks around the room, looks at his desk, or looks at another student.

Replacement behavior – The student will pay attention in class.
Operational definition of the replacement behavior – The student will sit in his seat and makes eye contact with the teacher while verbally responding to the teacher’s questions.

Resources


What a STAR Sheet is...

A STAR (STrategies And Resources) Sheet provides you with a description of a well-researched strategy that can help you solve the case studies in this unit.

What It Is

Using observable terms when operationally defining a student’s behavior means describing the behavior that one sees, not behavior that is presumed to happen. For example, a teacher can observe a student writing answers to comprehension questions. A teacher cannot observe a student’s understanding of a text.

What the Research and Resources Say

- If a behavior is defined in observable terms, the occurrence of that behavior is readily apparent to an observer. (Nock & Kurtz, 2005)
- Observable behavior is what one is doing or the product of what one has done. (Pierce & Cheney, 2004)

Tips for Implementation

- When defining behavior, start by describing what the behavior looks like.
  - Example: Steve looks out the window when asked to fill out his worksheet.
  - Non-example: Steve doesn’t do his work.
- Avoid being subjective by describing only the behavior you see or hear.
  - Example: Rosa rolls her eyes when I ask her to listen while other students talk.
  - Non-example: Rosa is rude to students who are talking.
- Consult a list of action verbs for ideas about describing behavior. Many of these terms are observable.
  - Examples: act, cooperate, debate, explore, focus, improve, label, organize, perform, replace, select, use, value, write
- Ask yourself the following questions. If you can answer “yes,” you have used observable terms.
  - Does the definition describe the student’s actions?
  - Can I see or hear the behavior occurring as described?
- If you observe several behaviors that may be considered the target behavior, define the target behavior more narrowly.

Keep In Mind

- Sticking to describing the behavior in observable terms will help you avoid one of the most common problems with defining behaviors: subjective evaluations that list inferred characteristics (e.g., sad, happy, upset, mad) or covert behaviors (e.g., thinking, remembering).
- Using observable terms to describe the behavior most likely will be insufficient for creating an operational definition of a behavior. Teachers should also use measurable terms (see “Use Meas-urable Terms” STAR sheet).
Resources


What a STAR Sheet is...

A STAR (STrategies And Resources) Sheet provides you with a description of a well-researched strategy that can help you solve the case studies in this unit.

What It Is

Using measurable terms refers to defining behavior in a way that it can be counted or timed.

What the Research and Resources Say

• Using measurable terms to define behavior allows one to quantify behavior. (Nock & Kurtz, 2005)

Tips for Implementation

• Just as you can measure the dimensions of an object (e.g., height, width, depth, weight), you can measure the dimensions of behavior. To ensure that the behavior is measurable, make sure to include in the operational definition at least one dimension of behavior.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>Number of times a behavior occurs</td>
<td>Bob got out of his seat three times.</td>
</tr>
<tr>
<td>Rate</td>
<td>Number of times the behavior occurs within a given time interval</td>
<td>Areon tapped her foot an average of 27 times in one minute.</td>
</tr>
<tr>
<td>Duration</td>
<td>How long a behavior lasts</td>
<td>Jalon stared out the window for four minutes.</td>
</tr>
<tr>
<td>Latency</td>
<td>Time between the antecedent and beginning of the behavior</td>
<td>Seven minutes elapsed between the teacher’s instruction to begin working and when Joanne actually began working.</td>
</tr>
<tr>
<td>Magnitude</td>
<td>Intensity with which the behavior occurs</td>
<td>The bite left teeth marks but did not break the skin.</td>
</tr>
</tbody>
</table>

• Academic skills can be made measurable by referring to a defined standard (e.g., benchmark, grade level).
  Example: Angelina will read thirty-five words per minute correctly on the grade-level progress monitoring measure.

• Define and select behaviors that will occur again within a given period (e.g., off-task behavior), as opposed to a behavior that occurs only occasionally (e.g., fighting).

• Ask yourself the following questions. If you can answer “yes,” you are using measurable terms.
  ◦ Can I count the number of times the behavior occurs, the number of minutes the behavior lasts, or the lapsed time between the antecedent and the behavior?
  ◦ Is there a specific standard (e.g., benchmark, grade-level standard) to which the behavior can be compared?

http://iris.peabody.vanderbilt.edu
Keep In Mind

- It is critical that a behavior be defined in measurable terms in order to assess changes in the behavior before and after intervention.

Resources


What a STAR Sheet is…

A STAR (STrategies And Resources) Sheet provides you with a description of a well-researched strategy that can help you solve the case studies in this unit.

What it is…

Using positive terms refers to defining behaviors in terms of what the student is doing or will do. Because you cannot measure a behavior that the student is not engaging in, you need to define behavior in terms of what the student is doing or what you want the student to do.

What the Research and Resources Say…

• Although maladaptive behaviors are typically identified as target behaviors, the ultimate goal of intervention should be to increase the occurrence of replacement or desired behaviors (Nock & Kurtz, 2005).
• Selecting and defining a replacement behavior, an appropriate alternative to the target behavior, is the first step in planning behavioral interventions (Umbreit et al., 2007).
• Select replacement behaviors that the student can engage in or learn to do (Umbreit et al., 2007) and behaviors that the teacher would like the student to engage in (Chafouleas et al., 2007; Crone et al., 2004).

Tips for Implementation

• Avoid using not in your behavioral definitions. If the target behavior is cursing, the replacement behavior is not “NOT cursing” because then any behavior other than cursing would be acceptable by definition (and there are many inappropriate things that could take the place of cursing). Instead, think about what you want the student to do. In this case, “using appropriate language during stressful situations” could be a replacement behavior.
• Ask yourself the following questions.
  ◦ Is the word not used in the definition (e.g., “The student will not…”)? If so, describe what the student will be expected to do instead.
    ▪ Example: The student will walk in the hallways.
    ▪ Non-example: The student will not run in the hallways.
  ◦ What would I prefer the student to be doing? If the answer is included in the definition, you have used positive terms.
    ▪ Example: When angry, the student will go to the quiet corner until he can calmly rejoin the group.
    ▪ Non-example: The student will not have a temper tantrum at school.

Keep In Mind

• If you do not specify the desired or replacement behavior in which the student should engage, a range of possible behaviors may replace the target behavior, some of which may not be appropriate. To prevent this, describe instead what the student should do.
Resources


★ What a STAR Sheet is...

A STAR (STrategies And Resources) Sheet provides you with a description of a well-researched strategy that can help you solve the case studies in this unit.

What It Is

Clear, concise, and complete definitions are precise descriptions of the behavior, such that someone else could quickly read and use the definition to record occurrences and non-occurrences with accuracy.

What the Research and Resources Say

- Clear definitions are “readable and unambiguous”. (Cooper, Heron, & Heward, 2007, p. 68)
  - A clear definition is one that is specific enough that someone not familiar with the classroom or student can utilize the definition and/or the definition can be used more than once and the same behaviors would be recorded.
  - Using precise terms when operationally defining behavior refers to describing the student’s behavior in a manner that leaves little room for interpretation by others.
  - Being clear involves describing the conditions and context in which the behavior occurs. (Batsche et al., 2008; Upah, 2008)
- Concise definitions convey all the relevant information about the behavior in the least amount of words. (Nock & Kurtz, 2005)
- Complete definitions specify what is and is not considered examples of the target behavior sufficiently so that there is little room for interpretation. (Cooper, Heron, & Heward, 2007; Lewis & Sugai, 1996; Upah, 2008)
- It is more effective to include in the behavioral definition conditions under which the behavior occurs or contextual influences. (Nock & Kurtz, 2005)

Tips for Implementation

- Avoid vague terms that are open to interpretation (e.g., respect).
  - Example: When speaking with her teachers, the student will use a quiet voice and will address her teachers using their last names (e.g., Ms. Hall, Mr. Rice).
  - Non-example: The student will speak respectfully to her teachers.
- Reword the definition if you find redundancy. Among groups of professionals, redundant words or phrases may easily find their way into a definition.
  - Example: Joey makes inappropriate noises during classroom instruction.
  - Non-example: During class, Joey makes inappropriate noises while the teacher is teaching the class.
- Ask yourself the following questions. If you can answer “yes,” your definition is clear, concise, and complete.
  - Can a stranger use this definition to determine whether the target behavior is occurring or not occurring?
  - Can you measure the occurrence of the behavior using rate, frequency, duration, latency, or magnitude?
Resources


