Data, Data, Data: Collection and Data Books

KERI LAGOW
EXCEPTIONAL EDUCATION MENTOR TEACHER
RICHMOND PUBLIC SCHOOLS
Agenda

- The WH questions of Data
- Choosing a data collection system based on..
- Reinforcement review
- A little bit about prompting
- Program/data binder examples
What do we mean by data collection?

Gathering Information

- Data sheets
- Work samples
- Grades
- Formal Evaluations and Reports
- Classroom Assessments
- Data Notebooks
Why

DO WE TAKE DATA???????
Why do we take data?

- Drives Instruction
- Helps us see patterns in behavior and learning.
- Helps us uncover variables that are impacting the student.
- Gives us credibility.
- Informs our decision making process.
Why do we take data?

- Assess student **academic** and **behavioral** progress
- Provide objective information on student’s performance
- Allows for documentation of small steps towards goal
- Easy way to communicate between team members
- Let’s you know what you’re doing is working!
Who should take data
Who should take data?

- Teachers
- Instructional Assistants
- Related service providers
- Any staff working with the student
How often do we take data?

- Depends on...
  - Target skill
  - Classroom resources
  - Opportunities to respond
  - Rate of skill acquisition

- Data can be collected
  - Each trial
  - Each class or program
  - Each day
  - Several times each week
When should I take data?

Well… What does the goal say?
- Probe dates
- Pre/Post tests
- Certain hours in the day
- Certain days of the week
- Is errorless learning involved?
- Across the day
- Across settings
- Across people
- As often as time allows
On What do we take data?

- IEP Goals and Objectives !!!!!!!!
- Behaviors
  - Define the target behavior (are they measurable, observable, and specific? ).
- Toileting
  - Make sure the data you are collecting is relevant to the students development and learning style.
- Ask the teacher/case manager if you ever have questions about what you need to record.
What can you keep track of?

- How often a behavior occurs...
  - Saying “Hi”
  - Talking to peers
  - Problem behaviors

- When presented with the opportunity to demonstrate a skill, is the child independent?
  - Answering math problems
  - Raising hand
  - Following a routine
“HOW AM I SUPPOSED TO TAKE DATA??”

“I’m teaching! I don’t have time to write down everything anyone does!”

“I just don’t think I can manage shuffling all those papers, timers, and watches…”

“When am I supposed to teach??”
Let’s make this data thing work...

- Identify targets to be measured – should be spelled out in IEP
- Generate strong (operational) definitions
- Identify appropriate data collection method
- Select reasonable yet effective schedule of data collection

- Use data codes and shortcuts when possible (NR = no response, +p = correct with prompt, I = independent)
- Communicate with all staff and teachers who will be collecting data
- Follow up and make sure everyone understands how to collect data
Direct Data

Direct data collection involves taking measures including ABC Charts, Scatter Plots, Duration Recording, Latency recording, Frequency Recording, and Interval Recording in order to learn:

• how often the behavior occurs (frequency)
• how long the behavior lasts when it occurs (duration)
• what happens just before the behavior (antecedent)
• what happens right after the behavior (consequences)
• patterns of when/where behaviors did and did not occur
Taking **Accurate** Data

- Make sure you understand what is a correct or incorrect response.
- For the most part, a correct and independent response will always be the “gold standard” of correct responses and should be marked (+)
- An incorrect response is designated with a (-)
- Prompted responses can be correct (+p) or incorrect (-p) depending on the prompting hierarchy.
- For baseline data, it is either correct (+) or incorrect (-).
## Behavior Examples

<table>
<thead>
<tr>
<th>General Description</th>
<th>Concrete, Observable, and Measurable Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student is Aggressive</td>
<td>Student will kick and hit, with a closed fist, staff and peers.</td>
</tr>
<tr>
<td>Student is Disruptive</td>
<td>Student will yell out and make noises with his mouth and other objects interrupting others.</td>
</tr>
<tr>
<td>Student is Hyperactive</td>
<td>Student continuously moves around on seat, plays with items on desk, and gets out of his seat without permission.</td>
</tr>
</tbody>
</table>
Selecting a Direct Data Collection Method

What Do You Want To Measure?

Do you want to know when (time or setting) the behavior is most likely to occur?
- Scatterplot

Do you want to know what happens right before and right after the behavior?
- A-B-C

Do you want to know the length of time the behavior occurs?
- Latency

Do you want to know how much or how often the behavior occurs?
- Duration

Do you want to know how long it takes to start a task or to follow a direction?
- Frequency Interval or Time Sampling Scatterplot
Direct Measures

- **Scatterplot**—Collects information on when, where, and the frequency in which the behavior occurs.

- **A-B-C Analysis**—Collects information on the Antecedent events, the Behavior, and the Consequences of the behavior.

- **Latency**—collects data on the length of time, or number of prompts, before a direction or cue is acted upon.
Direct Measures

- **Duration** - Collects data on the duration or length of a behavior. This is useful in determining the amount of time a student carries out a specific behavior. Examples: temper tantrums or off-task work.

- **Frequency** - A tally of the number of times a student engages in a behavior in a longer observation period. Example: number of curse words.

- **Interval/Time Sampling** - Provides an estimate of the occurrence of a behavior by breaking the observation period into equal, smaller time periods. Recording consists of indicating whether or not a behavior occurred during the time interval. It is also beneficial to keep track of the student's peers' behaviors for a comparison. Examples: time on-task/off-task, time in seat, time participating.
Data Sheet Codes

Record the type of prompt delivered…

**Motor Responses**
- **LT**: light touch / gesture to peers
- **LP**: light physical guidance
- **FP**: full physical guidance
- **I**: Independent Response

**Vocal Responses**
- **IS**: initial sound
- **PV**: partial verbal model
- **FV**: full verbal model
- **I**: Independent Response
MORE CODES

PROMPTING HIERARCHY

- **STEP 0:** FULL MANUAL GUIDANCE (+p, unless starts to do on own)
- **STEP 1:** LIGHT PHYSICAL GUIDANCE AT WRIST (+p, +, -)
- **STEP 2:** LIGHT PHYSICAL GUIDANCE AT ELBOW (+p, + or -)
- **STEP 3:** INDEPENDENT ( + or -)

- Data collection: + = correct
  
  +p = prompt
  
  - = incorrect
  
  -p = incorrect prompt
Good Program Data Binders

- One 1-3-inch binder
- Tab separators for each section
- Small sticky tabs for separating programs within each skill area
- One Skills Tracking Sheet for each active program
  - This is a great reminder of what has been mastered and the current program
- One cumulative graph for each active program
- Other data/graphs as needed (example: frequency graph for problem behavior, graph for fluency programs, etc.)
Additional Items

- Pencil
- Highlighter
- Ruler
- Calculator
- Tally counters
- Timer
- Colored Pens
- Post it notes
- And so on...
Let’s take a look!

- PLOP
- Accommodations
- Management Guidelines (Cheat sheet for new staff or substitutes).
- Preference assessments
- Curriculum Sheets
  - Describes how to run each program to ensure consistency.
Preference Assessment Form

Date: ___________   Student: ___________

Items to be assessed

<table>
<thead>
<tr>
<th>Number</th>
<th>Item</th>
<th>Number</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instructions:
1. Present both numbered items simultaneously. Place the first item on your left. The second item on your right.
2. If the student doesn’t select one, say, “take one”
3. Record as a selection any touch to an item. Circle the selected items.
4. If the item is an edible, allow the student to consume it before going on.
5. If the item is an activity, let the student play with it for 30 seconds.
6. Block any attempts to touch both items simultaneously.
7. If no response is made in 10 seconds, record “NR” and move to the next trial.
8. Be sure that the student has tasted or played with all items before assessing them.
9. Calculate the percentage of trials that each item was selected. Those items selected 80% or more of opportunities are most probably going to function as positive reinforcers.

<table>
<thead>
<tr>
<th>Trial</th>
<th>Left</th>
<th>Right</th>
<th>Trial</th>
<th>Left</th>
<th>Right</th>
<th>Trial</th>
<th>Left</th>
<th>Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>5</td>
<td>2</td>
<td>21</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>2</td>
<td>12</td>
<td>4</td>
<td>3</td>
<td>22</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>6</td>
<td>13</td>
<td>1</td>
<td>5</td>
<td>23</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>3</td>
<td>14</td>
<td>5</td>
<td>3</td>
<td>24</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>5</td>
<td>15</td>
<td>4</td>
<td>1</td>
<td>25</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>6</td>
<td>16</td>
<td>2</td>
<td>5</td>
<td>26</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>3</td>
<td>17</td>
<td>4</td>
<td>2</td>
<td>27</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>5</td>
<td>1</td>
<td>18</td>
<td>5</td>
<td>4</td>
<td>28</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>6</td>
<td>19</td>
<td>6</td>
<td>1</td>
<td>29</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>6</td>
<td>20</td>
<td>3</td>
<td>4</td>
<td>30</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Summary

Item 1 Selected ___ out of 10 or ___ % of opportunities
Item 2 Selected ___ out of 10 or ___ % of opportunities
Item 3 Selected ___ out of 10 or ___ % of opportunities
Item 4 Selected ___ out of 10 or ___ % of opportunities
Item 5 Selected ___ out of 10 or ___ % of opportunities
Item 6 Selected ___ out of 10 or ___ % of opportunities
NAME: Gianluca Lagow

Elementary Classroom Room L-12
Teacher: Mrs. Lagow
Bus: 112 AM and PM
Primary Mode of Communication: Non-Verbal (gestures, PECS)

Identified Reinforcers:
1. Swing
2. Trampoline
3. Walks
4. Music/Musical Cause and Effect toys
5. Edibles

Identified Successful Activities to Run: All materials in maintenance bin. (Matching)

Daily Activities: Gianluca follows classroom schedule that is on the white board and his picture schedule is set up for him next to his work station.

Arrival at School:
Gianluca arrives at school on Bus 112. He arrives between 8:30 and 8:45. When in classroom he will hang up his coat and bag with assistance. He should check his schedule and Breakfast should be set out on front table for him he sits in chair closest to door. After he eats breakfast please take him to water fountain for a drink and then to the Sensory Room. If he looks tired it is ok if he falls asleep.

Work: Gianluca works at a desk in the room with one other student. He has a three drawer plastic bin with everything labeled and inside of it. Clipboards are hanging on wall. Always have edibles for Gianluca to work for. (mini oreos, cheese its)

Breakfast/Lunch/Snack: Needs a teacher next to him at all times during feeding times. He needs all large food broken up in little pieces and given to him one at a time. He gets breakfast and lunch from school and he eats at front table. He needs food broken up to slow down his eating and please be advised if anyone else has found him he will try to steal it.
# Behavior Management Guidelines

<table>
<thead>
<tr>
<th>Prevention &amp; Preparation</th>
<th>Student Behavior</th>
<th>Staff Behavior (frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>works nicely keeping quiet hands</td>
<td>Staff reinforces appropriate behavior with verbal praise every trial, and edible/ preferred item he is wanting intermittently, at least every 3 to 4 trials of work</td>
</tr>
<tr>
<td>First/Then board</td>
<td>aggresses teacher (hit, head butt, kick, push or grab) while working</td>
<td>Staff remains neutral, reminds what he is working for, continues with work. If situation becomes unsafe follow BIP guidelines on his daily behavior sheet.</td>
</tr>
<tr>
<td>Remind him of what he is earning</td>
<td>elopes in the classroom</td>
<td>Staff remains neutral, Redirect back to task/seat and use First/Then board to remind him of what he is earning. Use positive verbal praise if complying start with compliance trials and then once he is back on task start to give edibles or preferred item he wants at that time.</td>
</tr>
<tr>
<td>Remind him of what he is earning</td>
<td>climbs</td>
<td>Staff remain neutral, Redirect back to seat,(physically take hand and bring him back once in seat deliver constant reinforcement (edibles, praise, toys) Use compliance trials to shape him back to work.</td>
</tr>
<tr>
<td>Remind him he can earn I-pad (show it to him)</td>
<td>de-robe</td>
<td>Staff remain neutral redirect to safe spot to try to get clothes on him. Have another person step in if he is not responding. Ignore his behaviors and remind him what he can earn (I-pad) if he puts his clothes on. (Wait him out)</td>
</tr>
<tr>
<td>Always have Pecs folder available Hide lunch bag as soon as he enters the room</td>
<td>requests an item with scream or noise response</td>
<td>Prompt to use pictures to ask for what he wants</td>
</tr>
<tr>
<td></td>
<td>gets on track after being off task</td>
<td>Verbally praise this and tell him he is earning X.</td>
</tr>
</tbody>
</table>

Updated 2/26/2014
<table>
<thead>
<tr>
<th>STUDENT BEHAVIOR</th>
<th>PROTOCOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Student demonstrates aggressive behavior in the form of hitting (with a</td>
<td>1. block and ignore, provide verbal prompt and visual picture symbol</td>
</tr>
<tr>
<td>closed fist, or open hand) on the arms and legs of staff and peers and</td>
<td>to show &quot;hands down&quot;, redirect to complete distractor task, provide</td>
</tr>
<tr>
<td>pinching (using fingers to grab at others) on the arms and legs of staff and</td>
<td>reinforcer after demonstrating appropriate behavior. If biting arm give</td>
</tr>
<tr>
<td>peers and biting self or others as well as eloping (running from staff or</td>
<td>chew tube for him to chew on.</td>
</tr>
<tr>
<td>activity).</td>
<td></td>
</tr>
<tr>
<td>2. Student demonstrates crying episodes behavior in the form crying with or</td>
<td>2. offer reinforcers edibles, music toy, put him on bean bag with</td>
</tr>
<tr>
<td>without tears for over 1 min and can last for over 2 hours.</td>
<td>weighted blanket and wait him out. Use first/then board</td>
</tr>
</tbody>
</table>
## Prescription Sheet FEB 2014-FEB 2015

Week of __________

<table>
<thead>
<tr>
<th>IEP Objectives</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Letter ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2 Functional Sight Words</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Block Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2 Sorting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3 Number ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1 One to two step directions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2 turn taking with Peer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1 Domestic skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2 Handwashing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.1 Independent Toy Play</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2 Picture Activity Schedule</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1-6.4 Behaviors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintenance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Match object to object</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Match picture to picture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Match object to picture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color match</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color ID (red yellow blue, green)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Body Parts match and ID</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Name: [REDACTED]
Curriculum: 2.2 Sorting functional items identical
Setting: Classroom/Discrete Trials
Materials: Materials in bin labeled training

Objective: [REDACTED] will sort functional identical and non-identical items (utensils, clothes, paper, plastic, cans) in four out of five opportunities across two people over three consecutive sessions over a nine week period.

Data Recording:
+ = correct anticipated
+p = correct prompt
- = incorrect anticipated
-p = incorrect w/ prompt or no response

Baseline: Sit at table with child. Present items to sort. Give Identical object with color, size, or shape and state “Sort X”. Wait 3-5 seconds for student to respond. Record a + if student responds correctly or a – if student responds incorrectly.

Level 1: Sort items (individually) identical
Present items to student. Hand student one item at a time and State “Sort X”

Prompting
Step 0: Immediate manual guidance
Step 1: Immediate light physical guidance
Step 2: 2-second delay light physical guidance
Step 3: Independent

Level 2: Sort items identical (all together)
Present items to student. Hand student the pile of pictures or objects and State “Sort X”

Prompting
Step 0: Immediate manual guidance
Step 1: Immediate light physical guidance
Step 2: 2-second delay light physical guidance
Step 3: Independent
Graphing your Data!

- Graphing Data is essential to evaluating student performance.

- The graph creates a snapshot of how a student is currently performing on an academic task.

- Ensuring this data is accurate is crucial to the overall success of the student’s programming.
The Big Finish!

- Why is Data important?
  - Drives decision making
  - Provides visual evidence
  - Credibility

- Importance of a Data Binder
  - Organization
  - Time-management

- Questions???
Contacts

- Bron Hansboro: Instructional Specialist Low Incidence Disabilities,
  bhansboro@richmond.k12.va.us, 780-4295
- Keri Lagow: Mentor Teacher- Autism/Low Incidence Disabilities, klagow@richmond.k12.va.us, 780-6267
- Holly Walker: Mentor Teacher-Autism/Low Incidence Disabilities,
  hwalker@richmond.k12.va.us, 780-6267
- Web.richmond.k12.va.us
- Departments
  - Exceptional Education and Student Services
  - Autism Spectrum disorders
- Staff