Systematic Instruction 5

Data Collection

Data collection is used to know \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_ your students are learning.

**Data collection in Systematic Instruction is:**

**What is the best kind of data to collect?**

**Why collect data and measure behavior & skill development?**

1.

2.

3.

4.

a.

b.

c.

d.

e.

**Tools for data collection:**

**Steps in data collection & data-based decision making:**

Primary reason for data collection:

1.

2.

3.

4.

5.

6.

7.

Notes:

**Define and select a target skill/behavior:**

This is not to be confused with an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

A target behavior is:

Before a behavior can be analyzed, define it in a \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ manner.

It needs to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Skill building example:

(Skill building is what you want the student to be able to do – target behavior, not an objective)

Challenging behavior example:

(Definition of what student is doing now that you are hoping to change)

**Collect baseline data:**

Skill building example:

Challenging behavior example:

Notes:

**Create the behavioral objective:**

Develop the behavioral objective from the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Skill building example:

Challenging behavior example:

Notes:

**Continuous vs discontinuous measurement:**

Continuous:

Discontinuous:

When using discontinuous measurement, what is an observation period?

**Measuring Behavior:**

1. Count, Frequency, Rate

|  |  |  |
| --- | --- | --- |
| Definition | Characteristics | Examples |
|  |  |  |

1. Permanent Product

|  |  |  |
| --- | --- | --- |
| Definition | Characteristics | Examples |
|  |  |  |

1. Percentage

|  |  |  |
| --- | --- | --- |
| Definition | Characteristics | Examples |
|  |  |  |

1. Duration

|  |  |  |
| --- | --- | --- |
| Definition | Characteristics | Examples |
|  |  |  |

1. Task Analysis

|  |  |  |
| --- | --- | --- |
| Definition | Characteristics | Examples |
|  |  |  |

1. Time Sampling/Interval

|  |  |  |
| --- | --- | --- |
| Definition | Characteristics | Examples |
|  |  |  |

1. Latency

|  |  |  |
| --- | --- | --- |
| Definition | Characteristics | Examples |
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1. Inter-response time

|  |  |  |
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| Definition | Characteristics | Examples |
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**Displaying Data:**

Equal Interval Charts:

Axis:

1.

2.

Data points are plotted on the intersection of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Solid & dashed lines:

1.

2.

3.

Charting Conventions:

1.

2.

3.

4.

**Data based decision making:**

We collect data to:

Data based decisions:

1.

2.

3.

a.

b.

c.

Decisions must be made \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - about \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

days.

**Reflection**

Things I learned from this module:

Questions I have:

Things I would like to learn more about:

**Putting it into practice**

* The only way to learn data collection and graphing is to do it!
* 1. Pick one objective for one student. Skill building may be easiest. Whatever you choose make sure you have a very clear objective, possibly with steps to the objective. (See lesson 4 workbook)
* 2. Decide on a data collection method (marks on paper, etc.) and whether you will be collecting data on opportunities or in a given time period.
* 3. Take three days/sessions of baseline data. (For now, don’t worry if it is not stable – this is for practice)
* 4. Create a graph – simple frequency is easiest.
* 5. After seven data days, determine the trend – going up, flat or going down. Before you do this complete the practice activities.
* 6. Make data based decisions! What does the data tell you to do?

Tutorials for creating graphs in Excel:

<https://youtu.be/3PwVWX28dEE>

https://youtu.be/TfkNkrKMF5c

https://youtu.be/yIml8GFrGuI

**Practice Activities**

Using the data from the tables and grids provided, graph the data to determine trends. Lay a pencil across as many data points as possible. (If you’re up for a challenge, see the end of this practice activity for instructions to determine trend more accurately.)

|  |  |
| --- | --- |
| Day | # |
| 1 | 9 |
| 2 | 8 |
| 3 | 7 |
| 4 | 6 |
| 5 | 6 |
| 6 | 5 |
| 7 | 5 |
| 8 | 4 |
| 9 | 3 |
| 10 | 1 |

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What is the trend?

What decision will you make?

|  |  |
| --- | --- |
| Day | # |
| 1 | 2 |
| 2 | 3 |
| 3 | 3 |
| 4 | 4 |
| 5 | 4 |
| 6 | 5 |
| 7 | 8 |
| 8 | 6 |
| 9 | 9 |
| 10 | 10 |

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What is the trend?

What decision will you make?

|  |  |
| --- | --- |
| Day | # |
| 1 | 1 |
| 2 | 3 |
| 3 | 3 |
| 4 | 4 |
| 5 | 4 |
| 6 | 5 |
| 7 | 8 |
| 8 | 7 |
| 9 | 9 |
| 10 | 10 |

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What is the trend?

What decision will you make?

|  |  |
| --- | --- |
| Day | # |
| 1 | 10 |
| 2 | 9 |
| 3 | 8 |
| 4 | 7 |
| 5 | 7 |
| 6 | 5 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |

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What is the trend?

What decision will you make?

* Geek Challenge!
* If you cannot determine a trend that is helpful in making data based decisions, you can use a more technical (and thus, reliable method for determining trend.
* **Split Middle Line of Progress** (In Cooper, Heron & Heward (2007) Applied Behavior Analysis; Pearson; Upper Saddle River NJ. p. 153)
* 1. Divide the data in half. (An odd number of points [7-13] is easiest.)
* 2. Find the intersection of the mid-rate (the data point(s) in the middle and the mid-date (or session) for both halves of the data.
* 3. Draw a line through the data from one intersection to the other. This is the trend line
* **Answer Key to Graphing Practice**

1. Descending
   1. There is a steady and incremental decline/decrease with all but one data points.
2. Ascending
   1. There is a steady (with one exception) and incremental increase with all data points.
3. Ascending
   1. There is a steady and incremental increase with all data points.
4. Questionable
   1. The first five data points show a descending trend line. However, the last five data points show an ascending trend line.

* **For questions regarding content and practice, contact:**
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* Autism and Other Developmental Disabilities Program
* Center for Development and Disability
* University of New Mexico
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* 505.272.1852 or 1.800.270.1861