Goal Setting and Progress Monitoring

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Most commonly known as an alternative method to identifying LD
  - Direct opposition to the IQ-achievement discrepancy
    - Wait to fail model
    - Low achieving students
    - Inconsistent practices

More broadly…it is an approach that uses students’ response to a high-quality instruction to guide educational decisions
  - Efficacy of intervention/instruction
  - Design of individual education programs

Early intervention and high quality instruction
Process of RTI

- Screening for at risk students
  - Typically lowest 25th percentile
- Implement a high quality Tier 2 intervention and chart progress
- If no response, move to Tier 3 intervention and continue to chart progress
- Must use evidence-based, high quality interventions
At Tier 1, students achieve proficiency in the general education classroom, using the core curriculum.

At Tier 2, students who are struggling receive targeted intervention through differentiated instruction, informed by assessments and ongoing progress monitoring.

Students who continue to struggle receive additional, intensive intervention at Tier 3 and may be referred to special education to ensure instruction meets their specific needs.
Benefits of RTI

- Early intervention
- Reaching students that perhaps would not have received services
- Improvement in overall curriculum
  - If 50% of students are needing Tier 2 services, there may be something wrong with Tier 1 curriculum
Examples of General Outcome Measures

- Curriculum-Based Measurement (CBM)
- Dynamic Indicators of Basic Early Literacy (DIBELS)
Developed by Stanley Deno at the University of Minnesota. Was designed to be a reliable and valid measurement system for evaluating basic skills growth. There are various probes provided in the areas of reading and mathematics, some examples are:

- Initial Sound Fluency
- Letter Naming Fluency
- Phoneme Segmentation Fluency
- Reading (Oral Reading Fluency)
- Maze (modified Cloze)
DIBELS

- Phonological Awareness
  - Initial Sound Fluency
  - Phoneme Segmentation Fluency
- Alphabetic Principal
  - Nonsense Word Fluency
- Fluency
  - Oral Reading Fluency
Assessments for Younger Children

- [http://wwwlsi.ukans.edu/jgprojects.igdi/](http://wwwlsi.ukans.edu/jgprojects.igdi/)
- [http://www.getgotgo.net](http://www.getgotgo.net)
Characteristics

- CBM and DIBELS are General Outcome Measures (GOM’s)
  - GOM’s are routinely utilized in the world of business and medicine.
  - Examples include height, weight, and the Dow-Jones Industrial Average
GOM’s

- Measures cumulative mastery and integrated skills (not a specific subskill)
- Focused on long term goals
- Emphasize generalizable (real-world) behaviors
Benefits to Using GOM’s

- Simple, accurate, and relatively inexpensive
- Sensitive to growth across instruction or interventions
  - Independent of specific teaching methods, programs or curriculum
- Technically adequate
- Inform Instruction
- Have been found to predict standardized test performance with 80% accuracy!!!!
Using GOM’s to Inform Instruction

- Obtain baseline data
  - Administer the desired probe to ascertain where the student is consistently performing.
    - The number of trials needed is determined by the type of measure being used.
- Determine an acceptable level of performance
  - Where does the student need to be performing at in order to be successful?
    - There are several methods for determining normative information
- Is there a discrepancy???
  - Use the data collected in comparison to the norm to determine what to do next.
Support for GOM’s

‘children whose teachers employed the ongoing measurement and evaluation… achieved better than students whose teachers used conventional monitoring methods, such as periodic teacher-made tests, informal observation, and workbook samples (Fuchs, Deno, & Mirkin, 1984)’.
Today

- Why is setting goals important
- How are measurable and objective goals written
- How to chart progress
- How to determine if a goal was met
Why Goal Setting is Important

- Is the student responding to the current instruction?
  - However; it’s not just for determining eligibility
    - (i.e., did the student respond to the Tier 1/ Tier 2 instruction)

- Student outcomes can also be improved upon, when progress is continually monitored
  - Fuchs, Fuchs and Hamlett, 1991
Basing Instruction on Goals

- Setting goals will increase student achievement
- Making instructional decisions based on goals is even more powerful
Results of Fuchs et al., 1991

- Used Math CBM to monitor progress (global indicators)
  - Teachers just monitored progress
  - Teacher monitored and augmented instruction based on data
  - Status quo

- Students who received instruction based on his/her current achievement levels exhibited greater growth
  - As consultants we need to help teachers chart progress and interpret results
Why Progress Monitor

- Not sure how the student will respond to the instruction
- Progress monitoring allows us to make decisions based on the pattern of performance, rather than on one or two isolated pieces of information
- Student outcomes improve when performance is assessed regularly
Progress Monitoring

- Chart Dog

- Goal writing
  - Time frame, behavior, condition, criterion
    - By May 26, 2005, Jennifer will obtain a score of 20 digits correct as measured by a 5th grade applied mathematics assessment administered for 5 minutes.

- Expected Rate of Increase (ROI)

- Generally want at least 6 data points for good inference making
Progress Monitoring

- Collect data based on severity of problem
  - For more severe problems, collect data 2 times per week (any more than that and we see diminishing returns)
- Determine the length of data collection based on the intervention and the type of problem-how soon do you reasonably expect to see improvement
Sample Goals

<table>
<thead>
<tr>
<th>Category</th>
<th>Goal Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>In (#) weeks <em>(Student name)</em> will read (#) Words Correctly in 1 minute from randomly selected Grade (#) passages.</td>
</tr>
<tr>
<td>Spelling</td>
<td>In (#) weeks <em>(Student name)</em> will write (#) Correct Letter Sequences and (#) Correct Words in 2 minutes from randomly selected Grade (#) spelling lists.</td>
</tr>
<tr>
<td>Math Computation</td>
<td>In (#) weeks <em>(Student name)</em> will write (#) Correct Digits in 2 minutes from randomly selected Grade (#) math problems.</td>
</tr>
<tr>
<td>Written Expression</td>
<td>In (#) weeks <em>(Student name)</em> will write (#) Total Words and (#) Correct Writing Sequences when presented with randomly selected Grade (#) story starters.</td>
</tr>
</tbody>
</table>
Goal Setting

- Very important!!!!
- A good goal will contain the time frame (in 16 weeks), condition in which the behavior is to occur (on the ORF measure), actual behavior (Suzy will read 45 words per minute)
Obtaining Baseline Data

- It is important to obtain baseline data so that the growth can be accurately graphed.
- Baseline data is used to provide an accurate representation of current performance (used for both academic and behaviorally oriented issues).
Determining an Acceptable Level of Performance

There are several different methods of deriving normative information.

- District norms
- Classroom norms
- Normative growth rates
District Norms

- All children within the district are tested
- A normal curve is developed based on that data
- All children within the district can be compared to that curve.
Drawbacks to District Norms

- The district norms may be lower than national norms
- The district may not be meeting standards
Classroom Norms

- 6 children in the classroom are tested and the target student(s) is compared to those students
- Quick and easy method of obtaining comparison data
Drawbacks to Classroom Norms

- All the same drawbacks as district norms
- May not be as reliable of an estimate based on the small sample size.
Normative Growth Rates

- The DIBELS GOM’s provide norms for each of the measures. The following is an example of the Kindergarten norms.

### Kindergarten DIBELS Benchmark Goals

<table>
<thead>
<tr>
<th>DIBELS Measure</th>
<th>Beginning of Year</th>
<th>Middle of Year</th>
<th>End of Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Performance</td>
<td>Status</td>
<td>Performance</td>
</tr>
<tr>
<td>Initial Sounds Fluency</td>
<td>ISF &lt; 4</td>
<td>At Risk</td>
<td>ISF &lt; 10</td>
</tr>
<tr>
<td></td>
<td>4 ≤ ISF &lt; 8</td>
<td>Some Risk</td>
<td>10 ≤ ISF &lt; 25</td>
</tr>
<tr>
<td></td>
<td>ISF ≥ 8</td>
<td>Low Risk</td>
<td>ISF ≥ 25</td>
</tr>
<tr>
<td>Letter Naming Fluency</td>
<td>LNF &lt; 2</td>
<td>At Risk</td>
<td>LNF &lt; 15</td>
</tr>
<tr>
<td></td>
<td>2 ≤ LNF &lt; 8</td>
<td>Some Risk</td>
<td>15 ≤ LNF &lt; 27</td>
</tr>
<tr>
<td></td>
<td>LNF ≥ 8</td>
<td>Low Risk</td>
<td>LNF ≥ 27</td>
</tr>
<tr>
<td>Phonemic Segmentation Fluency</td>
<td>PSF &lt; 7</td>
<td>At Risk</td>
<td>PSF &lt; 7</td>
</tr>
<tr>
<td></td>
<td>7 ≤ PSF &lt; 18</td>
<td>Some Risk</td>
<td>10 ≤ PSF &lt; 35</td>
</tr>
<tr>
<td></td>
<td>PSF ≥ 18</td>
<td>Low Risk</td>
<td>PSF ≥ 35</td>
</tr>
<tr>
<td>Nonsense Word Fluency</td>
<td>NWF &lt; 5</td>
<td>At Risk</td>
<td>NWF &lt; 5</td>
</tr>
<tr>
<td></td>
<td>5 ≤ NWF &lt; 13</td>
<td>Some Risk</td>
<td>10 ≤ NWF &lt; 25</td>
</tr>
<tr>
<td></td>
<td>NWF ≥ 13</td>
<td>Low Risk</td>
<td>NWF ≥ 25</td>
</tr>
</tbody>
</table>
# First Grade Norms

## First Grade DIBELS Benchmark Goals

<table>
<thead>
<tr>
<th>DIBELS Measure</th>
<th>Beginning of Year</th>
<th>Middle of Year</th>
<th>End of Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Performance</td>
<td>Status</td>
<td>Performance</td>
</tr>
<tr>
<td><strong>Letter Naming Fluency</strong></td>
<td>LNF &lt; 25</td>
<td>At Risk</td>
<td>PSF &lt; 10</td>
</tr>
<tr>
<td></td>
<td>25 ≤ LNF &lt; 37</td>
<td>Some Risk</td>
<td>10 ≤ PSF &lt; 35</td>
</tr>
<tr>
<td></td>
<td>LNF ≥ 37</td>
<td>Low Risk</td>
<td>PSF ≥ 35</td>
</tr>
<tr>
<td><strong>Phonemic Segmentation Fluency</strong></td>
<td>PSF &lt; 10</td>
<td>Deficit</td>
<td>PSF &lt; 10</td>
</tr>
<tr>
<td></td>
<td>10 ≤ PSF &lt; 35</td>
<td>Emerging</td>
<td>10 ≤ PSF &lt; 35</td>
</tr>
<tr>
<td></td>
<td>PSF ≥ 35</td>
<td>Established</td>
<td>PSF ≥ 35</td>
</tr>
<tr>
<td><strong>Nonsense Word Fluency</strong></td>
<td>NWF &lt; 13</td>
<td>At Risk</td>
<td>NWF &lt; 30</td>
</tr>
<tr>
<td></td>
<td>13 ≤ NWF &lt; 24</td>
<td>Some Risk</td>
<td>30 ≤ NWF &lt; 50</td>
</tr>
<tr>
<td></td>
<td>NWF ≥ 24</td>
<td>Low Risk</td>
<td>NWF ≥ 50</td>
</tr>
<tr>
<td><strong>Oral Reading Fluency</strong></td>
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<td>At Risk</td>
<td>ORF &lt; 20</td>
</tr>
<tr>
<td></td>
<td>8 ≤ ORF &lt; 20</td>
<td>Some Risk</td>
<td>20 ≤ ORF &lt; 40</td>
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<tr>
<td></td>
<td>ORF ≥ 20</td>
<td>Low Risk</td>
<td>ORF ≥ 40</td>
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</table>
There has been some research documenting expected performance levels using CBM.

<table>
<thead>
<tr>
<th>Grade level of material</th>
<th>Level</th>
<th>Words correct per minute</th>
<th>Errors per minute</th>
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</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Frustration</td>
<td>&lt;40</td>
<td>&gt;4</td>
</tr>
<tr>
<td></td>
<td>Instructional</td>
<td>40-80</td>
<td>4 or less</td>
</tr>
<tr>
<td></td>
<td>Mastery</td>
<td>&gt;60</td>
<td>4 or less</td>
</tr>
<tr>
<td>3-6</td>
<td>Frustration</td>
<td>&lt;70</td>
<td>&gt;6</td>
</tr>
<tr>
<td></td>
<td>Instructional</td>
<td>70-100</td>
<td>6 or less</td>
</tr>
<tr>
<td></td>
<td>Mastery</td>
<td>&gt;100</td>
<td>6 or less</td>
</tr>
</tbody>
</table>
Expected Rate of Increase

- ROI’s are provided by AimsWeb
- They provide the normal growth rates for students at different parts of the school year
- They can be used to determine where the student should be at in a given amount of time - goal setting
ROIs

- On the left is the percentile rank - anything below 25% is considered at risk
- Three columns with Fall, Winter and Spring norms
- The ROIs are on the far right
## AIMSweb® Growth Table Nonsense Word Fluency
### Multi-Year Aggregate

<table>
<thead>
<tr>
<th>Grade</th>
<th>90%ile</th>
<th># Students</th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
<th>ROI</th>
</tr>
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<tbody>
<tr>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90</td>
<td></td>
<td>10</td>
<td>39</td>
<td></td>
<td>55</td>
<td>1.3</td>
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<tr>
<td>75</td>
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<td>26</td>
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<td></td>
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<td>5</td>
<td>5</td>
<td></td>
<td>16</td>
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<tr>
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<td>0</td>
<td>0</td>
<td></td>
<td>6</td>
<td>0.2</td>
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<tr>
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<td>3</td>
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<td></td>
<td>31</td>
<td>0.8</td>
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<tr>
<td>StdDev</td>
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<td>7</td>
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<td></td>
<td>21</td>
<td>0.4</td>
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<td></td>
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<tr>
<td>90</td>
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<td>81</td>
<td></td>
<td>110</td>
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<tr>
<td>75</td>
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<td>38</td>
<td>60</td>
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<td>79</td>
<td>1.1</td>
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<td>14</td>
<td>32</td>
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<td>44</td>
<td>0.7</td>
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<td></td>
<td>6</td>
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<td>28</td>
<td>0.6</td>
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<tr>
<td>StdDev</td>
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<td>21</td>
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<td></td>
<td>33</td>
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<td></td>
<td>99</td>
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<td></td>
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<td>31</td>
<td>37</td>
<td></td>
<td>41</td>
<td>0.3</td>
</tr>
</tbody>
</table>

**Num** = Number of Students  **WC** = Words Correct  **ROI** = Rate Of Improvement

ROI is Spring Score minus Fall Score (or Winter minus Fall) divided by 36 weeks (or 18 weeks)
Drawbacks to Normative Growth Rates

- Removed from school level curricula levels
- School/district may have significantly different populations that may normative data non-applicable (not a representative sample)
Goal Writing

- A second grade student is having comprehension difficulties
  - Which tool would you use to measure - why?
Sample Goal

- That same second grader has 2 correct responses on the maze and oral reading fluency of 62 words per minute
- What goals should be written?
- Provide a sample goal
Sample Goal

- A fourth grade student has a score of 16 digits correct on a mathematics computation task
  - Does he need a goal?
  - If so, write a sample goal?
Using Chart Dog
Home Page

To access the data-entry page, select the number of data-points (maximum = 50) that you wish to enter. Then click the button 'Open ChartDog'.

6

Open ChartDog

Quick Links: ChartDog Manual Data Entry Shortcuts Report a Bug About ChartDog
Choosing the Number of Data Points

- Choose how many data points you will actually collect
  - This includes baseline and your actual data
- For this example the number is 6
  - One baseline data point and 5 actual data points
Choosing Title, Measure and Duration

- Name the chart something useful to you
- Choose the measure you will be using from the drop down menu, or if your measure is not listed manually enter your own
- Choose how you would like the duration to be noted
  - Days elapsed
  - Calendar days
  - Instructional days
Choose your title here

Choose your measure or manually enter

Choose your time frame or manually enter
Data Series

- **Data Series 1 = Baseline data**
  - Should be 3 data points

- **Data Series 2 = Progress monitoring data**
  - Should be at least 6 data points, for making instructional decisions
This allows you to choose a name for each data series. Not necessary, optional, easier to leave on default settings.

- **Display Numeric DataValues on Charted Line-Plots?**
  - YES
  - NO

- **Select Short Name for Data Series 1 [Optional]:** baseline

- **Select Short Name for Data Series 2 [Optional]:** progress monitoring

- **Display Data Table In Report?**
  - YES
  - NO

- **Type in Any Comments to Be Added to Report:**
Data Analysis

- This is a very important step
- You only want to have the trendline calculated for progress monitoring data - not the baseline
Choose trend line for Data Series 2 ONLY
This will calculate the trend line for your progress monitoring data.
The trend line shows you the expected student growth, based on the data you have collected.

Section 2: Data Analysis [Optional]. Select one or more methods of analysis for data-series:

- Data Series 2: Compute trend (regression) line for all phases.
- [Compute Means for Data Series...]
- [Compute 'Percentage of Non-Overlapping Data Points' (PND) for Data Series...]
- [Compute Effect Sizes for Data Series...]
Enter the Data

- Enter the baseline data in the Obs 1 section
- Enter the progress monitoring data in the Obs 2 section
Baseline data

Progress monitoring data
Chart It!!!
Chart

- The chart provided will only have the trend line on it.
- You will need to draw in the goal line.
  - Do this by copying the graph from your browser and pasting it in a word document.
    - You should be able to drag it on your desktop.
  - Use the draw function in word and draw a line from the first progress monitoring point to the point on the graph that you want the student to achieve.
Sample Chart Dog Data

Data Series 1

Data Series 2
Decision/Inference Rules

- Slope of trend line exceeds goal line
  - Increase goal, or stop special interventions
- Slope of trend line is the same as the goal line
  - Keep things the same
- Slope of trend line is lower than that of the goal
  - More intensive services - don’t lower the goal
Decision Making

- 3 day rule
  - There are 3 data points below the goal line (not the most reliable, but quick and easy—can be done by hand)

- Trend Analysis
  - Plot the data in excel (or other similar program) and compare the slope of the data to the goal line
The diagram shows a trendline and a goal line with data points indicating correctly read words per minute over assessment dates from January to March. The equation for the trendline is $y = 0.2498x - 9454.4$. The graph is used to monitor progress and set goals for reading improvement.
Aiden Progress

Goal Line

Trendline

Correct Digits per 5 minutes

Calendar Days

Baseline

0 10 20 30 40 50

12 Apr 05 19 Apr 05 26 Apr 05 03 May 05 10 May 05 17 May 05 24 May 05

20 25 30 35 40 45

16.0 20.0 25.0 30.0 34.0 36.0 38.0
Jennifer Progress on an Applied Mathematics Probe

Goal line

Trend Line