Progress Monitoring in Early Childhood Programs

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Defining Terms

Progress Monitoring:

- a scientifically based practice that is used to assess students’ academic performance and evaluate the effectiveness of instruction. Progress monitoring can be implemented with individual students or an entire class.
  - National Center on Student Progress Monitoring
In Early Childhood, we carry out assessments for many reasons:

- To determine the existence of a delay or disability
- To determine eligibility for services
- To determine what to teach (develop IEP/IFSP goals/objectives)
- To monitor individual child progress—is current set of interventions working?
- To determine whether a program as a whole is improving children’s outcomes
- To be accountable
Goals for all of us are...

- To minimize the amount of assessment and maximize the amount of service and intervention.

So, in the name of efficiency, we often try to use the same tool for as many purposes as possible.

But different tools offer specific advantages for different purposes.
In Early Childhood, we have two approaches for progress monitoring…

1. Critical Skills Mastery
2. General Outcomes Measurement
DEC Recommendations for Curriculum, Assessment and Program Evaluation (2007)

EC Assessment Teams have 2 assessment options for monitoring progress:

- **Critical Skills Mastery Approach**—(e.g., Curriculum Based Assessment [not the same as CBM])—mastery of individual skills at single points in time

- **General Outcome Measurement Approach**—(e.g., IGDIs—Individual Growth and Development Indicators)—vocabulary growth trajectory based on many points in time
Developers of GOMs in Early Childhood

- University of Kansas: Charles Greenwood, Dale Walker, Jay Buzhardt, Kathleen Baggett, Judith Carta
- University of Minnesota: Scott McConnell & Mary McEvoy
- University of Oregon & Dynamic Measurement Group: Ruth Kaminski & Roland Good
- Others: Pat Snyder, Amanda VanDerHeyden, Jim DiPerna & Paul Morgan
Features of Progress Monitoring Measures in a GOM Framework

- Reflect progress toward a socially valid general outcome
- Strategic (a leading indicator) not comprehensive measurement
- Chart an individual’s progress
- Brief and quick to administer
- Repeatable (rate of growth, slope)
- Trend line compares expected vs. actual rates of learning
The most well known IGDI is Pediatric Growth Charts

Widely used by pediatricians and parents
Trajectory or Rate of Growth is a Key Feature of GOM Approach to Progress Monitoring

- Shows whether child’s current rate of growth is adequate for reaching the outcome.
- Can easily communicate progress with family members, other professionals.
- Can indicate whether change in intervention is needed.
- Even when trajectory is far from typical, a positive trendline deflection in response to an intervention can convey when changes are “closing the gap.”
Measures for Very Young Children: *Individual Growth and Development Indicators (IGDIs)*

- For Infants and Toddlers ([http://www.igdi.ku.edu](http://www.igdi.ku.edu))
  - Early Communication (Language)
  - Early Problem Solving (Cognition)
  - Early Movement (Motor)
  - Early Social (Social/Emotional)
- For Preschoolers (Early Literacy) ([http://ggg.umn.edu/](http://ggg.umn.edu/))
  - Picture naming (Spoken Vocabulary)
  - Alliteration
  - Rhyming
Early Communication Indicator (ECI) for Infants and Toddlers

The General Outcome

- “The child uses gestures, sounds, words, or sentences to convey wants and needs or to express meaning to others.”

- In a national survey of parents and practitioners, expressive communication was a highly rated outcome of early childhood
  - Priest et al., 2001
ECI Constructs and Key Skills

Early Communication Indicator

General Outcome: “The child uses gestures, sounds, words, or sentences to convey wants and needs or to express meaning to others”

Constructs: Prelinguistic Communication → Spoken Language

Key Skills: Gesture, Vocalization, Single Words, Multiple Words
Early Communication Indicator for Infants and Toddlers

- Key Skill Elements
  - Gestures
  - Vocalization
  - Single Words/Signs
  - Multiple Words/Signs

- Combine to form

  Total Communication Indicator
Individual Level Results: *Total Communication Growth Chart*

**Weighted Total Early Communication**
Program: Child: Oyle, Olive  Date: 12/08/2005

- **+1.5 SD**
- **Norm Slope: 0.64**
- **-1 SD**
- **-1.5 SD**

- **Oyle, Olive**
- **Milieu or Incidental Teaching**
  - Child Slope: 1.02
  - Child Mean: 6.3

**Key Points:**
- **Child’s Observed Trajectory**
- **36 Mos Expectation**
- **Normative Trajectory**
Uses of Progress Monitoring in GOM Approach

- Identifying children who need additional support
- Monitoring improvement
- Informing decisions about intervention for individuals, programs, local, state
- Informing state OSEP accountability

- See ECO Crosswalk
  - http://www.fpg.unc.edu/~eco/pdfs/IGDI0-3Crosswalk7-03-06posted.pdf
## Crosswalk to OSEP Outcomes

**Individual Growth and Development Indicators for Infants and Toddlers (IGDI 0-3)**

### Crosswalk to Child Outcomes

<table>
<thead>
<tr>
<th>Outcome 1: Positive social relationships</th>
<th>Outcome 2: Acquires and uses skills and knowledge</th>
<th>Outcome 3: Takes appropriate action to meet needs</th>
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</thead>
<tbody>
<tr>
<td><strong>Early Social Indicator</strong></td>
<td><strong>Early Communication indicator</strong></td>
<td><strong>Early Movement Indicator</strong></td>
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<tr>
<td>Positive Nonverbal Social Behavior Toward Peer</td>
<td>Gestures</td>
<td>Transitional Movements*</td>
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<tr>
<td>Positive Verbal Social Behavior Toward Peer</td>
<td>Vocalizations</td>
<td>Grounded Locomotion*</td>
</tr>
<tr>
<td>Positive Nonverbal Social Behavior Toward Adult</td>
<td>Single Words</td>
<td>Vertical Locomotion*</td>
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<tr>
<td>Positive Verbal Social Behavior Toward Adult</td>
<td>Multiple Words</td>
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<tr>
<td>Positive Nonverbal Social Behavior (Nondirected)</td>
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<tr>
<td>Positive Verbal Social Behavior (Nondirected)</td>
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<tr>
<td>Negative Behaviors</td>
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<td><strong>Early Problem-Solving Indicator</strong></td>
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<td>Functions</td>
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<tr>
<td>Solutions</td>
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* Precursor skills for functional behaviors. These skills may not be appropriate or expected for some children, including those with sensory, motor, or other impairments.

Note: Indicators or key skills that are not precursor to or components of any of the three outcomes, and therefore not included in the crosswalk, were:

- **Early Movement Indicator**
  - Throwing/Rolling
  - Catching/Trapping
Instruction Decision-Making Model Using GOMs

- More Dynamic
- More Data-Driven
- More Responsive
Using GOM for Instructional Decision-Making

Is there a problem?

**Weighted Total Early Communication**

- **Program:** Popeye's EHS
- **Child:** Oyle, Olive
- **Last ECI:** 11/14/2001

**Graph Details:**
- **+1.5 SD**
- **Norm Slope:** 0.64
- **-1 SD**
- **-1.5 SD**
- **Oyle, Olive**
- **Child Slope 1:** -0.61

- **Notes:**
  - Child had 3 quarterly assessments
  - Child's slope
  - First low ECI initiates the MOD
Making Online Decisions (MOD)

MOD for child Tara Hogart

Currently on Step 4 - Home Visitor's Fidelity Follow-up Checklist:

<table>
<thead>
<tr>
<th>Step</th>
<th>Complete?</th>
<th>Completed on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 - Is there a problem?</td>
<td>Yes</td>
<td>02/17/2008</td>
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<tr>
<td>Step 1 - Is there a problem?</td>
<td>Yes</td>
<td>02/17/2008</td>
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<tr>
<td>Step 2 - Why is it happening?</td>
<td>Yes</td>
<td>02/17/2008</td>
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<tr>
<td>Step 3 - What should be done?</td>
<td>Yes</td>
<td>02/17/2008</td>
</tr>
<tr>
<td>Step 4 - Is it being done?</td>
<td>Yes</td>
<td>02/17/2008</td>
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</table>

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<thead>
<tr>
<th>Step 4 - Home Visitor’s Fidelity Follow-up Checklist</th>
<th>View/Print First Checklist</th>
<th>Yes</th>
<th>02/17/2008</th>
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<tr>
<td>(for observation done on 02/12/2008)</td>
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<tr>
<td>Step 4 - Home Visitor’s Fidelity Follow-up Checklist</td>
<td>View/Print Follow-up</td>
<td>Yes</td>
<td>02/17/2008</td>
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<tr>
<td>(for observation done on 09/13/2008)</td>
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<tr>
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<td>View/Print Follow-up</td>
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<td>02/17/2008</td>
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<td>Step 4 - Home Visitor’s Fidelity Follow-up Checklist</td>
<td>View/Print Follow-up</td>
<td>Yes</td>
<td>02/17/2008</td>
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<td>(for observation done on 10/16/2008)</td>
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Step 5 - Is it working?

Weighted Total Early Communication
Program: Juniper Gardens Test  Child: Hogart, Tara  Last ECI: 10/15/2006

- +1.5 SD
- Norm Slope: 0.64
- -1.5 SD
- -1.5 SD
- Hogart, Tara
- Making Online Decisions System
- Child Slope 1: 0.47
- Child Slope 2: 0.34
Why is it happening?

Team gathers information about child's current development, environment, medical issues, past interventions,
What Should Be Done?

- What Routines?
- Where?
- Who Should Do?
What Should Be Done?

MOD Identifies Optional Intervention Strategies Based on Child’s Proficiency on ECI and Feasible Routines for Families
Is It Being Done?

- Quarterly Monitoring
  - No → Is there a problem?
    - Yes → Why is it happening?
    - No → Is it working?
      - Yes → What should be done?
      - No → Is it being done?
Fidelity Checklist provides some indication of quality of implementation

### Home Visitor’s First Fidelity Checklist

After the ECI assessment indicates a need for more frequent monitoring, and you have selected a specific intervention strategy, please check either Yes or No to each step below to indicate whether or not it has been done.

Please only use this checklist the first time you go over the intervention materials. On each visit after this one, use the Home Visitor’s Fidelity Follow-Up Checklist.

| Child: | Jenny Juniper |
| Assessor: | Data Entry: Fakeo |
| Date of visit: | Dec 01, 2006 |

Following Child’s Lead

Diapering

<table>
<thead>
<tr>
<th>1. Was the person with whom you reviewed the strategies the child’s primary caregiver? (Select ‘No’ if unknown).</th>
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<tr>
<td>Yes</td>
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<p>| 2. How many hours does this person spend with the child a week? |</p>
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<tr>
<th>Hours</th>
<th>Unknown</th>
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<tr>
<th>3. I talked to them about how they can help by using the strategy(s) across their daily routines.</th>
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<td>Yes</td>
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<tr>
<th>4. I helped them pick one (1) or two (2) routines in which they could do the strategies.</th>
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<td>Yes</td>
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<tr>
<th>5. I gave them the materials related to the strategies.</th>
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<td>Yes</td>
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<tr>
<th>6. I modeled/demonstrated how the parent/guardian should use the strategy(s).</th>
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<td>Yes</td>
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<tr>
<th>7. I role-played the strategies together with the parent/guardian.</th>
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<td>Yes</td>
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<tr>
<th>8. I observed the parent/guardian perform the strategy(s).</th>
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<td>Yes</td>
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<tr>
<th>9. I showed them where to record their usage of the strategy(s) on the routines sheet.</th>
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<tr>
<td>Yes</td>
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<tr>
<th>10. I asked the parent/guardian how they plan on using the strategy(s) across the routines.</th>
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<td>Yes</td>
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<tr>
<th>11. I suggested that they keep the routines sheet and intervention handout in a place they will see it every day.</th>
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<td>Yes</td>
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<tr>
<th>12. I asked if they had any questions.</th>
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<td>Yes</td>
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General Comments/Notes

Next > Continue Later | Skip the Initial Checklist
Is It Working?
Progress Monitoring Using GOM shows change in trajectory.
Benefits/Strengths of GOM Approach

- GOMs not only show that children are acquiring skills, but they capture information about the rate of growth.
- Rate of growth can be compared to normative rates as well as to child’s own rate before or during an intervention or different phases or variations of intervention.
- This makes GOMs a sensitive way of looking at effectiveness of interventions.
GOMS provide feedback about when intervention is on course

- Can help interventionists “see” when they’re making a difference
- Can help practitioners know more quickly when a change is necessary
- When trajectories of children in groups are aggregated, can help directors understand when programs need improvements and provide an index of accountability.
Some Differences in the Two Approaches to Progress Monitoring

- **General Outcome Measurement**
  - Specific, not comprehensive
  - Brief probes (several minutes)
  - Repeatability enables estimates of *rate of growth*
  - Rates of growth predict whether outcome will be achievable
  - Improvement indicates continue current intervention

- **Mastery Monitoring Approaches**
  - Comprehensive and sequential
  - Mastery indicates that a change in instruction is needed to address the next skill
  - Takes significant amounts of time to administer
  - Not usually repeated at frequent intervals
  - While they are used to show children are acquiring skills, not as easy to show rates of growth and whether eventual outcome will be achieved
IGDI Decision Making Model

Monitor

Identify/Validate Need For Intervention

Evaluate Intervention Effectiveness

Monitor

Generate Intervention Strategies

Implement Intervention

Curriculum-Based Assessment

IGDIs

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Concluding Points

- GOM approach does offer reliable and valid tools for progress monitoring in early childhood.
- They can be used for many purposes in intervention decision-making.
- Their ease of use and illustration of growth make them excellent tools for communication about children’s progress.
- Their sensitivity to growth allow for more frequent refinements and more effective interventions for individual children.
References


