



Early Childhood Teachers' Use of Ongoing Child Assessment to Individualize Instruction

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What Does it Mean to use Ongoing Assessment to Individualize Instruction in Early Childhood?

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Using ongoing child assessment to individualize instruction is considered a best practice in early childhood education¹ and is a requirement in the Head Start Performance Standards.² Teachers who use ongoing assessment to individualize instruction may reduce the school readiness gap for children at risk, deliver more effective instruction, and have students who achieve better outcomes.³ Practitioners, researchers, and policymakers are paying closer attention to how early childhood education (ECE) teachers use ongoing child assessments to track children's progress and tailor instruction to each child's unique strengths, needs, and interests.

What is a curriculum-embedded approach to ongoing assessment?

Curriculum-embedded approaches and General Outcomes Measures (GOMs; see Appendix) are the two main approaches for ongoing child assessment. Our conceptual framework focuses on curriculum-embedded approaches because they are (1) more common in early childhood settings than GOMs; (2) more comprehensive, as they usually cover several domains of development; and (3) they require greater teacher skill and knowledge to use. There is a strong need for research on teachers' use of curriculum-embedded approaches as:

- These approaches link assessment of children's progress to early learning standards, skills, and knowledge taught by a specific curriculum.
- Teachers can use these approaches to inform daily instruction and interventions, identify children's strengths and difficulties, and monitor child progress.
- Some of these assessments are created by curriculum developers and linked to lesson plans. Other assessments are created based on national standards and developmental expectations.

This is one of a series of briefs about ongoing assessment for individualizing instruction.

This brief provides a conceptual framework that shows practitioners and researchers how practitioners can use ongoing assessment for individualization.

An additional brief titled "Tailored Teaching: The Need for Stronger Evidence About Early Childhood Teachers' Use of Ongoing Assessment to Individualize Instruction" describes a review of the literature on ongoing assessment in early childhood settings for researchers and practitioners.

Finally, the brief "What Do We Know about How Early Childhood Teachers Use Ongoing Assessment?" succinctly summarizes findings from the review of the literature for practitioners.

Definitions of Key Terms

Ongoing child assessment: Repeated assessments and observations of a child's performance and progress over time.

Conceptual framework: A way to represent how we think about a topic, in this case, showing the steps in cycles of ongoing assessment and teaching.

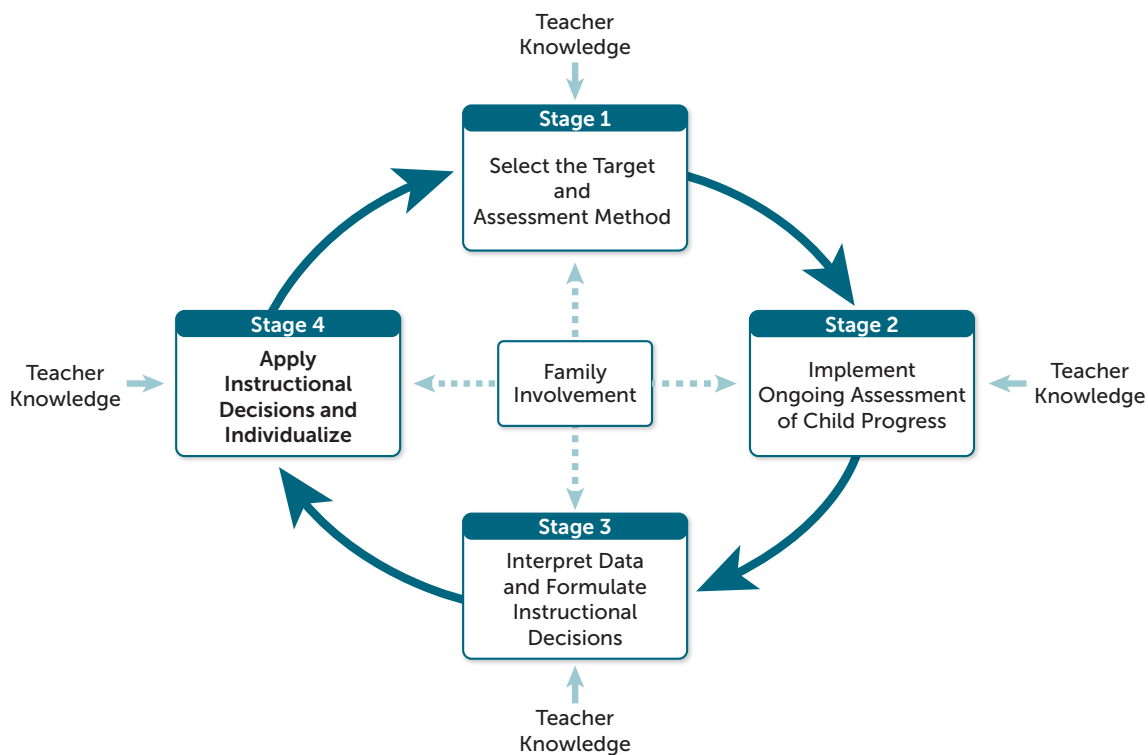
Individualization: The process in which a teacher uses data to identify a child's skill level for a learning goal and tailor instruction for that child. The teacher uses data on an ongoing basis to see whether the child is progressing in response to the instructional changes and adjusts instruction as needed.

- Assessments track a child’s skills across many developmental and school readiness domains, documenting what a child knows and is able to do.
- Teachers typically rate children’s performance with rubrics provided by the assessment system. These rubrics describe behaviors for different levels of performance along a continuum, building toward end-of-year goals.
- Teachers collect assessment data from many sources (e.g., observation, direct assessment, or parent and child interviews). Most assessments are based on daily activities.
- Performance on curriculum-embedded assessments can help teachers individualize instruction by:
 - Indicating that a child has met a standard and is ready to learn the next skill
 - Identifying the circumstances under which a child is able to demonstrate a skill

A conceptual framework for curriculum-embedded approaches

This conceptual framework for curriculum-embedded approaches describes the steps teachers take when using ongoing assessment for individualization. Practitioners can use this conceptual framework to improve current ongoing assessment efforts, and researchers may find the framework useful for measuring this process. The conceptual framework for using curriculum-embedded approaches to track children’s progress and individualize instruction is a repeating cycle with four stages: (1) selecting what to assess (the **assessment target**) and how (the **assessment method**); (2) implementing the assessment; (3) interpreting the assessment data, including setting hypotheses about why the child was or was not successful, and making instructional decisions; and (4) applying instructional decisions (Figure 1). At each stage, teachers need different types of knowledge. Families can be involved at each of the stages, but they are most frequently involved in the interpretation and

Figure 1. Conceptual framework for curriculum-embedded approaches to ongoing child assessment



Context: (1) policy and supervisory support, (2) different methods for assessment, (3) frequency of ongoing assessment, (4) technology support, (5) adequate time for teacher reflection and planning, (6) curriculum, and (7) teacher beliefs.

Definitions of Key Terms

Assessment target: The knowledge, skill, or behavior that the teacher wants to assess.

Assessment method: The way that the teacher gathers information about the skill, knowledge, or behavior of interest.

instructional decision-making stage. Different aspects of the context can influence how effectively teachers implement each of the stages. To the extent possible, the framework was informed by a review of the literature⁴ on ongoing assessment in early childhood. The literature review found few studies with rigorous evidence, so the framework also draws on theory and expert opinion.

Next, we describe each of the four stages and recommended practices for each stage.

Stage 1: Selecting the assessment target and method for monitoring child progress

Ongoing child assessment begins when the teacher selects an assessment target and method. The assessment system is often selected by program managers rather than the teacher, but it influences what and how teachers assess. For example, some assessment systems ask the teacher to select the assessment target from a menu of curriculum goals and objectives. The supports available to the teacher within different assessment systems also vary. Some assessment systems link more closely to the curriculum than others.

The assessment target is the knowledge, skill, or behavior that the teacher wants to assess. Examples of assessment targets in preschool include the following:

- Recognize shapes or colors when they are named
- Show understanding of cause-and-effect relationships
- Follow a two-step direction
- Persist in assembling a puzzle with fewer than 20 pieces
- Take turns with another child when playing a matching game

The assessment method is the way that the teacher gathers information about the skill, knowledge, or behavior of interest. In curriculum-embedded approaches, the teacher systematically records developmental observations over time about a child's naturally occurring behaviors and competencies during daily activities. The field sometimes refers to these assessments as authentic. Some examples of assessment methods include the following:

- Observations of a child going about his or her day-to-day tasks and routines
- Video- and audio-recordings
- Samples of a child's work or play, such as drawings, dictation of what a child says, and pictures of three-dimensional structures that a child builds
- Structured tasks, such as asking a child to name pictures, shapes, numbers, or letters using flash-cards; zip a zipper; or copy a block structure
- Standardized probes and questions, such as asking a child, "When is your birthday?" or, "Where should I begin reading?"

Box 1 shows recommendations for how teachers should select an assessment target and method.

Box 1. Recommendations for selecting the assessment target and method

- Focus on meaningful and developmentally appropriate behaviors, knowledge, or skills.
- Observe the child's behavior and response to activities and questions that support the curriculum.
- Focus on behaviors that can be observed and measured in a variety of settings or formats.
- Focus on behaviors that can change in response to instruction and intervention.
- Use a data collection approach that makes sense to the child, is appropriate for the child, and captures the child's skills, knowledge, or behavior.
- Select a method that can be used efficiently and frequently, either taking place within the curricular activities or in a way that can quickly and easily capture what the child knows and can do.
- Collect data frequently enough to guide the child's expected progress.

Next, we present some examples.

- **Select meaningful assessment targets that examine a skill, knowledge, or behavior that a child needs to be successful, either now or in the future.** Early childhood teachers should select targets in a key domain related to school readiness and success in school. These domains include language and literacy development, cognition and general knowledge, approaches to learning, physical well-being and motor development, and social and emotional development.
- **Select targets that focus on a *generalizable* outcome—that is, a skill, knowledge, or behavior that a child can demonstrate in a variety of settings or formats.** For example, children can demonstrate letter recognition knowledge when they see a certain letter in their name, on an index card by itself, or at the beginning of a word in a book.
- **Select an assessment method that makes sense to the child. The child should understand what he or she is being asked to do.** The assessment task should be something that children would be expected to do in a familiar environment, rather than something so unusual that they might not understand what to do. If children do not understand the task, they might not be able to show their knowledge or skills. When- ever needed, the teacher should use adaptations or prompts to ensure that children understand the task. Teachers should also make the task accessible for children with special learning needs (including cultural and language differences). For example, the teacher could allow a dual language learner with a Spanish home language to respond to English prompts in either English or Spanish.
- **Collect data frequently enough to guide each child’s expected progress over time in each learning domain.** The schedule for data collection should match the pace of a child’s expected progress. Data should be collected often enough that the teacher knows when the child needs more or less support or challenge. For example, the schedule should allow the teacher to review progress quarterly, with a minimum of three observations

for a given assessment target. The teacher could collect some data each week, and more frequently in the areas currently being taught each day.

Stage 2: Implementing ongoing assessment of child progress

Typically, teachers weave assessment tasks into instructional activities. They then document the data they collect, often through the use of anecdotal records, photos, videos, checklists, rubrics, or ratings.

Box 2 shows recommendations for how teachers should implement and document ongoing assessment.

Box 2. Recommendations for implementing ongoing assessment

- Conduct the assessment efficiently to maximize instructional time.
- Make the assessment fair, ensuring that the following occur:
 - The context for the assessment makes sense for the child.
 - The child understands the task at hand.
- Document information objectively, reliably, completely, and efficiently.

Next, we present some examples

- **Conduct the assessment efficiently, maximizing instructional time.** Efficient assessments reduce time away from instruction. If the teacher is busy writing lengthy notes, then he or she is not interacting with children and actively supporting their learning. Efficiency also helps the teacher avoid missing critical information. For example, a teacher writing copious notes is not able to observe carefully. By planning the specific information to collect, the teacher can easily document important context for the assessment by copying and pasting from the activity plan. Assessing a naturally occurring activity is often the most efficient method—for example, teachers might find it more efficient to observe whether a child can zip a coat when getting ready to go outside rather than during a small-group activity.

- **Document assessment information objectively and completely.** The documentation should describe what happened rather than make inferences or judgments. The teacher should also note important information about the child’s behavior, the task, and the context of the assessment. Such information includes the following:

- Date
- Time
- Group size
- Type of activity
- Presence of adult, peer, and/or environmental supports
- Use of prompts
- Any other adults involved in the assessment activity

All of these could influence whether the child is successful at a task.

Stage 3: Interpreting data and making instructional decisions

Teachers organize the data they collect to make it easier to interpret what they see in the data. Ultimately, well-organized data will help teachers communicate important information to families and team members. Teachers interpret the data on each child’s performance compared to expected performance based on developmental guidelines, curricular guidelines, or typical same-age peers. Teachers also can interpret the assessment data in light of other relevant data, such as information on the frequency of instructional activities, peers’ performance, national benchmarks, and input from families and specialists. Finally, teachers use the data to identify children’s strengths, weaknesses, interests, and learning differences. Based on the findings, they select the best way to support each child’s progress. Teachers can perform these activities in teams, with support from other teachers, coaches, consultants, and family members.

Box 3 shows recommendations for how teachers should interpret data and apply instructional decisions.

Box 3. Recommendations for interpreting data and formulating instructional decisions

- Organize information so that it does the following:
 - Helps teachers interpret data.
 - Facilitates communication with families.
 - Minimizes demand on teachers’ time.
 - Supports consistent, reliable data entry if a computerized system is used.
 - Helps teachers compare progress across different areas within a single child’s development and across all children or groups of children for specific learning domains.
- Use the data to reflect on and interpret children’s behavior, and consider other explanations for a child’s performance and progress, such as whether a child is just imitating what he or she sees other children doing.

Examples include the following:

- **Organize information in a way that supports valid interpretation.** The organization should make it easy to examine change over time in specific skills, knowledge, and behavior. The teacher should be able to look for patterns in data collected from multiple sources using multiple methods across multiple time points.
- **Use the data to reflect on and interpret children’s behavior and consider other explanations for children’s performance and progress.** The teacher should draw on information from multiple time points, sources, and methods of assessment, rather than from a single response. The teacher should also consider other explanations for a child’s behavior, developing hypotheses to test at the next instructional opportunity. For example, “Could she do the task if I provide more visual cues?” or, “Could he do this in a different context?”

Stage 4: Applying instructional decisions and individualizing

To maximize each child's progress, teachers individualize instruction. They use the child's data to plan and deliver high-quality, evidence-based instruction that is designed to meet that child's needs at that point in time. The teacher then returns to Stage 1 of the framework to assess whether the individualized instruction helped the child make greater progress on the targeted learning objective.

Box 4 shows recommendations for teachers' interpretation of the data and application of instructional decisions.

Box 4. Recommendations for applying instructional decisions and individualizing instruction

- Use evidence-based instructional strategies that are:
 - Responsive to the data.
 - Implemented with fidelity (that is, the way that they are supposed to be implemented).
 - Evaluated in an ongoing manner.
- Use a variety of instructional approaches that build on children's strengths and interests while supporting areas needing growth.

Examples include the following:

- **Use instructional strategies that are responsive to the data.** For example, the teacher should increase or vary opportunities for learning and practice for children with weaknesses identified in the data.
- **Use a variety of instructional approaches.** For example, the teacher could intentionally group children in ways that address various learning needs and strengths. The teacher could individualize instruction within a group by offering different questions or levels of prompts to each child. The teacher could also individualize by offering more opportunities for a child to practice a particular skill throughout the day.

Box 5. Key factors that influence whether and how well teachers are able to use curriculum-embedded approaches to ongoing child assessment

- Program supports for ongoing child assessment, including the following:
 - Availability of training, professional development, coaching, or consultation related to assessment
 - Policy requirements and support for frequent assessments of children's progress, including a schedule for assessing children and for reviewing and reflecting on children's progress
 - Availability of adequate time for reflection and planning
 - A culture that supports use of data and collaboration among teachers in assessing and interpreting data
 - Access to information on evidence-based instructional strategies that are linked to the curriculum and availability of support for selecting appropriate strategies
- Teachers' knowledge of and beliefs about the following:
 - Child development
 - Teaching, learning, and curriculum
 - Assessment
 - Evidence-based instruction
- Family involvement, including the following:
 - Incorporating families' perspectives into the assessment process
 - Encouraging families to support children's development at home

Additional influences

Not all curriculum-embedded assessment systems offer teachers support in all parts of the process. Therefore, it is important to consider key characteristics of the program structure that can support implementation (Box 5). Two additional factors can also influence the quality of implementation across stages and areas of development: (1) teachers' knowledge and beliefs and (2) family involvement in the process.

Next steps

Practitioners can use this conceptual framework to guide using ongoing assessment for individualization. In addition, this conceptual framework is being used to develop a measurement tool to conduct high-quality research to strengthen our understanding of how teachers might best use ongoing assessment to boost child development outcomes.

The Office of Planning, Research & Evaluation funded a project⁵ in fall 2012 to create the Examining Data Informing Teaching (EDIT)⁶ measure. The dimensions of quality identified in this conceptual

framework served as the foundation for development of the EDIT. The EDIT extends beyond existing measurement tools because it captures a wider range of steps involved in early childhood assessment and individualization and can be used with different types of curriculum-embedded ongoing assessment systems. The EDIT provides researchers with a tool to determine whether high-quality use of ongoing assessment is linked to improved instructional practices and, ultimately, positive child outcomes. Additionally, the EDIT could help identify important practices within the stages of the conceptual framework to guide professional development efforts.

Appendix. What is a General Outcomes Measurement (GOM) approach to ongoing assessment?

- In the GOM approach, teachers use a brief standard task with strong evidence of validity to monitor children's progress toward a long-term goal.
- The task assesses a behavior or set of behaviors that can be observed and evaluated in an objective way. The same brief task is repeated throughout the year, with decision rules that help teachers decide when children are not making enough short-term progress and need more intensive help.
- GOMs currently assess only a limited number of domains; most GOMs in preschool currently focus on language and literacy, and some focus on mathematics.

Additional resources

- Akers, L., P. Del Grosso, S. Atkins-Burnett, S. Monahan, K. Boller, J. Carta, and B.A. Wasik. "Research Brief—Tailored Teaching: The Need for Stronger Evidence about Early Childhood Teachers' Use of Ongoing Assessment to Individualize Instruction." Washington, DC: Mathematica Policy Research, 2015.
- Akers, L., P. Del Grosso, S. Atkins-Burnett, S. Monahan, K. Boller, J. Carta, and B.A. Wasik. "Research Brief—What Do We Know About How Early Childhood Teachers' Use Ongoing Assessment?." Washington, DC: Mathematica Policy Research, 2015.
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Endnotes

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²"Head Start Performance Standards." 45 CFS Sec 1307.3(b)(2)(ii). *Federal Register*, November 9, 2011.

³See, for example:

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⁵The full title of the project is "Assessing Early Childhood Teachers' Use of Child Progress Monitoring to Individualize Teaching Practices."

⁶The EDIT was formerly referred to as the Tool for Tailored Teaching (T3).