Bridging: Assessing the Content and Process of Learning

CHAPTER #2

- Performance Rubrics to Assess the Content of Learning
- Working Approach Rubrics to Assess the Process of Learning
- *Bridging* Learning Profiles to Inform Next Steps in Teaching

*B*ridging assessment activities focus on uncovering the developmental progress of young children in relation to key concepts and skills in a range of curricular areas over a period of three to four years. Each *Bridging* activity has three rubrics to guide teachers and childcare providers in recording and analyzing children's efforts at a moment in time. One rubric assesses the level of children's performance on understanding key concepts and skills in content areas. The other two rubrics focus on children's working approaches during the activity, including how they respond to challenges, use materials, and interact with peers. These rubrics give teachers and childcare providers a clear roadmap to evaluate both a child's current level of development and areas that are emerging. As teachers and childcare providers come through the process, they are opening the way to new possibilities in their planning and teaching with questions such as, "How can I use this information to understand this child better? How does the child's role in this activity compare to that in other *Bridging* activities? What is making the difference in this child and others becoming so involved in learning activities?"

Performance Rubrics to Assess the Content of Learning

The content of learning in the five *Bridging* assessment activities is measured by tracking evidence of its key concepts and skills during children's performance. These key concepts and skills align with national and state early learning standards for children aged three to six. The five activities are generative to future learning in that they embody basic skills

and understandings that children can gradually become more aware of and apply to new situations and problems over time. Rather than trying to evaluate children's knowledge of isolated facts and skills, the *Bridging* process provides activities that have meaning and purpose for children while also holding the skills and knowledge we seek for them to master. *Bridging* activities allow educators to watch the skills and knowledge develop while children are in the learning process.

Appendix B includes six performance rubrics for the five *Bridging* assessment activities. Dictating and acting out stories constitute one activity, but they are assessed using two distinct performance rubrics. Each *Bridging* performance rubric has six levels. Research in children's development and each content area of literacy, math, STEM, the arts, and pretend play, guided the rubric formulation. For example, the rubric for the children's dictated stories derives from Arthur Applebee's research on narrative development. This rubric also draws from extensive work studying Vivian Paley's implementation of the activities in a wide range of school and childcare settings. It includes utilizing these activities in Boston Public Schools, Houston early childhood programs, and Chicago area schools as well. The face validity of the rubrics was further established through consultation with content area experts as well as classroom teachers and childcare providers.

The *Bridging* rubric detailing the developmental shifts in each of the five activities enables teachers to identify a child's knowledge of key concepts and use of skills for a specific activity at a given time on a particular day. Each developmental level has both a name and specific performance indicators to assist the teacher in scoring a child's work. Table 2.1 provides a sample performance rubric.

An important aspect of the *Bridging* assessment process is the concept of listening in order to understand children and their learning at a moment in time, not judging them one way or another. In the *Bridging* assessment process, all rubric levels are interesting and helpful to a teacher or provider in understanding a child and the process of learning in a particular area of content learning. For example, Level 0, no performance or no participation does *not* mean no development. It means what it is – no participation on this day in that moment. This becomes interesting "data" to think about alongside other information a teacher gathers on a child, providing an opportunity for questions. For example, is the nonparticipation a one-time occurrence? Is nonparticipation the child's usual response to this particular activity? Does a particular type of material affect the child's participation or the grouping situation for the activity? Does the child prefer other types of activities for self-expression and participation? Nonparticipation, like any other rubric score, then becomes an opportunity to consider what the information gathered can tell us about children and how they benefit from an activity. For example, a child can benefit enormously from watching others dramatize a story instead of acting in one.

Over time, when teachers are using the *Bridging* assessment process, they are gathering a profile of learning scores that reveal a child's

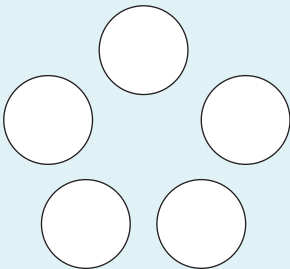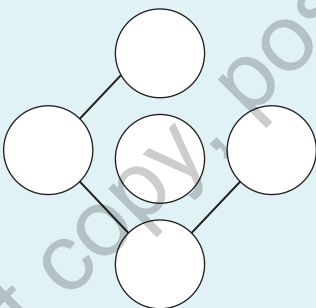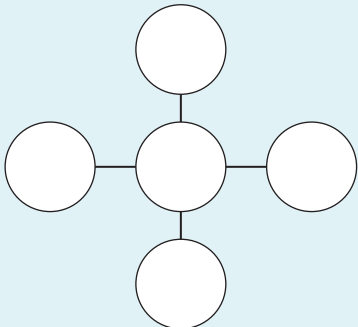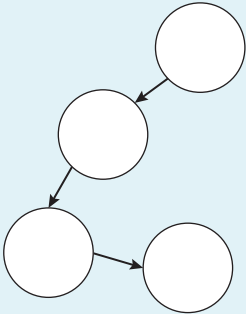**Table 2.1**   Sample Performance Rubric for Dictating a Story
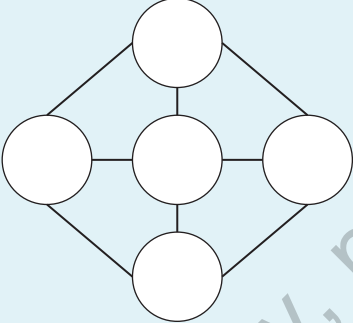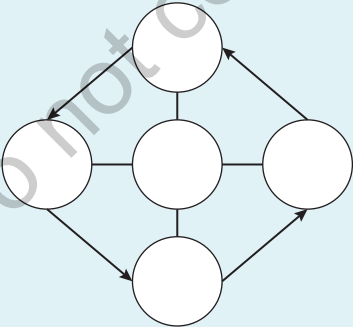
LEVEL	NAME	PERFORMANCE INDICATORS
0	No Participation	• Child declines to participate in activity.
1	First Stories	• Child tells a one-word story such as "Mommy." Or "Running." • Child says one or more words, but without connections among the words. Story can sound like a list of items or events; for example, "A flower, a pencil, a bunny." • Child may scribble on paper and give one-word label or name to each object. • Story is one sentence (e.g., "A mermaid swims in the water.")
2	Sequence of Events	• Story elements share a common core because of some visible similarity (for example, a certain action repeated over and over or an "events of the day" story). • Story is a collection of ideas/objects/ associations linked by some concrete similarity. • There is no single idea or character or problem at the center of the story. • Story might contain little detail or be a string of associations.
3	Primitive Narratives	• There is a core idea or character at the center of the story. • Relations among characters and actions are not fully developed. • The links among the characters and actions are based on practical experience in the here-and-now. The links are concrete rather than conceptual. • Story events lead from one to another but links may shift (settings may blur, characters may come and go).

Table 2.1   (Continued)

LEVEL	NAME	PERFORMANCE INDICATORS
4	Unfocused Chain	• Story line is tenuous and often gives way to another topic • Story events lead from one to another but links may shift over the course of the story. • Links among story events are often based in the here-and-now and are concrete
5	Focused Chain – Problems and Plots Emerge	• Story is well developed in terms of events and actions of characters • The story plot proceeds with a central idea or conflict that is concrete rather than conceptual (for example, a baby is sick and needs to go to the doctor, or a princess has to find her lost sister, or good guys have to stop pirates from kidnapping the captain) • Stories can be a "continuous adventures of ___" type narrative
6	Elaborate Narrative	• Story unfolds with a set of events and characters around a central idea or problem with consistent forward movement toward problem resolution at a conceptual level (for example, a lonely fox has no friends and finds a lost rabbit. Will the fox scare it or find a way to make friends?) • Story has a climax where there is change in a character or circumstances as a result of events or characters' actions. • Story includes some description of characters motivations and indicators of change

Source: Adapted from Applebee (1978).

strengths and interests – as well as areas of development that are still unfolding and that can benefit from experiences, guidance, and coaching. Teachers and providers are also gathering a wealth of information about variables that draw each child into learning in any one content area and into the learning environment more broadly. An uneven learning profile across the five activities is what we can expect in the *Bridging* process. Contrast and discrepancies in a child's performance across different activities pave the way for teachers and childcare providers to discuss how children learn in varied content areas. The findings across activities give teachers and providers new ways to determine where a child is thriving or struggling and consider how to best set up and carry out an activity to invite children's optimal performance.

Working Approach Rubrics to Assess the Process of Learning

To complement the documentation of the content that children already know or are learning, *Bridging* also helps teachers collect information on the process by which children engage when working on tasks. We use the term "working approaches" to define this process of learning. This term describes how a child interacts with materials and responds to the demands of a task. Teachers and providers observe a wide range of working approaches children use when engaged in a learning activity. For example, some children work with a solitary focus on what they are doing and cannot be distracted by anything until they complete their effort. Other children want to talk to others as they get oriented to a task and benefit from comparing notes with peers as they work. Some children jump right into a task, whereas others are slower to warm up to a particular task. *Bridging* includes an efficient way to capture such salient details about individual children's working approaches that significantly influence the outcome of a child's work.

For these rubrics, "working" indicates that the construct refers to a child's observable behaviors while engaged in an activity rather than the child's internal mental states or processes. "Approach" affirms that all children are actively participating in their learning as they engage in or respond to a task, rather than passively "having" a style. A child's working approach for each specific task and its relevant content area (math vs. creative expression vs. literacy) illuminates the child's executive functioning and self-regulation skills. These are the child's skills at attending to and focusing on what is important and necessary to complete the task successfully. For *Bridging*, working approaches are not a set of stable traits in the child and are not the same across all tasks. Rather, working approaches are malleable and affected by teacher guidance and coaching.

The process of learning in *Bridging* is measured through two types of working approach variables: productive working approaches that hinder or enhance performance and descriptive working approaches that describe characteristics or personality differences in how children engage

in learning. Appendix C includes the two working approach rubrics which are the same across all *Bridging* assessment activities. Teachers and providers usually make a copy of the rubrics as a reference while noting children's behaviors and scoring their working approaches.

Two criteria guided our selection of the working approach variables. First, we reviewed studies of motivation, disposition, temperament, gender, personality, self-regulation, perceptual preference, learning styles, and executive functioning. This review helped us identify variables expected to either promote or hinder a child's performance, such as focus and attention during a task and resourcefulness when confronting a problem or challenge.

The second criterion we used to identify the working approach variables was their potential to help teachers recognize ways children learn in school. These working approach variables remind us that learning in school is not something children come into this new setting knowing how to do. They learn to go to childcare or school and then learn how to learn there. Once teachers and providers can recognize patterns in working approaches, they can guide children in this aspect of learning. For example, teachers can discuss with children how to focus when coming to a challenge, and what kinds of questions to ask themselves or one another.

We also ensured that the working approaches we identified for *Bridging* are observable in classroom and childcare settings. They apply to all children, not just to a few with strong tendencies toward one or more approaches. Each variable is described in terms that are meaningful to teachers and childcare providers. We kept the number of approaches manageable in the recording process. *Bridging* assesses ten working approaches that are observable across all five assessment activities.

Table 2.2 lists six *Bridging* productive working approaches: initial engagement in an activity, focus and attention throughout a task, goal orientation, planfulness, resourcefulness, and cooperation. These six working approach behaviors are assessed using a rating scale from 1 to 5. Higher scores indicate that a child's approach is more adaptive and organized and thus more conducive to successful participation in the classroom learning activity. It is important to note that the difference among children on a variable is a matter of degree.

When implementing *Bridging* activities across a wide range of early childhood classrooms, we found a positive correlation between children's working approach scores and their performance scores (Chen et al., 2011; Chen & McNamee, 2011). On average, a child who earns higher working approach scores also is likely to earn higher content rubric scores. Some working approach variables seem to have a greater impact on children's performance than others. Specifically, goal orientation, planfulness, and focus were more closely related to rubric scores than the other three approaches. This finding is consistent with research reporting that goal orientation and planfulness are among the central components of executive functions in higher mental processes. When teachers and providers

Table 2.2   Definition of Productive Working Approach Variables

VARIABLE	DEFINITION
Initial engagement	The extent to which the child responds to the activity when first introduced – evidenced by words, body language, and gestures.
Focus and attention	The degree to which the child is on-task throughout the activity, as evidenced by their attentiveness and persistence in working.
Goal orientation	The degree to which the child works toward the activity goal as set by the teacher, as evidenced by the child's behavior and use of materials.
Planfulness	The extent to which the child uses strategies to complete the task, as evidenced in conversation, use of materials, and sequencing of steps in the activity.
Resourcefulness	The extent to which the child seeks help from others to solve problems when needed.
Cooperation	The extent to which the child works well with peers when working on the task as evidenced by taking turns, sharing materials, and problem-solving with others.

become aware of the importance of such behaviors for thinking and learning, they are in a much stronger position to help children develop approaches that pave the way to successful learning.

In contrast to the productive working approach variables, several other characteristics of young children can make a difference in how they participate in learning and assessment tasks. The final four working approach variables are called descriptive working approaches because they do just that: highlight distinctive features of children's personalities that are ever-present in classroom dynamics. Table 2.3 defines these four descriptive approaches.

Like productive approaches, descriptive approaches are measured on a 5-point scale. However, unlike the productive working approach variables, higher scores on the descriptive variables do not indicate more effective ways of problem-solving or task completion. Instead, they indicate only that a child shows a greater degree of those behaviors and a stronger use of that approach for a specific task.

Descriptive approaches do not appear to impede or enhance performance. Rather, they provide another perspective on how a child approaches a task. As an example, consider the pace of work. A child working slowly on a task may be either careful and thorough or indifferent and passive. Similarly, a child who gets work done quickly may be careless and impulsive or experienced and skillful. Through systematic observation and documentation, a teacher or provider can determine how speed affects a child's work and whether a child's pace fluctuates or remains constant on tasks in different curricular areas.

Table 2.3   Definition of Descriptive Working Approach Variables

VARIABLE	DEFINITION
Chattiness	The amount of talking about matters connected to or possibly not directly related to the activity at hand such as personal concerns, fantasies the child engages in, or events outside of childcare or school.
Pace of work	The tempo or rhythm of a child's work in comparison to others in the group – faster, slower, or a more deliberate pace.
Social referencing	The extent to which the child is aware of others and checks in verbally or nonverbally during the activity when stuck or confused.
Playfulness	The degree to which the child shows a sense of humor during the activity, and/or a propensity toward imaginative pretend thinking with others while working.

Descriptive approaches may indirectly affect a child's performance by influencing the teacher's or provider's perception of the child. Children who score very high or very low on these approaches exhibit behaviors that may appear problematic for the child's learning from the teacher's or provider's point of view. For example, a very chatty child may seem inattentive and disruptive. A quiet child may appear disengaged and withdrawn. A serious child may seem to lack enthusiasm and interest. To the extent that teachers and providers see these as approaches rather than problematic traits, they gain an opportunity to consider what these behaviors mean from the child's point of view. With data from the *Bridging* assessment process, teachers and providers can look at when, how, and why a child uses these approaches. They also may find activities for which the child's use of these approaches is adaptive and helpful for others.

Take the example of a child who scores high on chattiness during a task. Through observation, the teacher or provider may learn that the child is very chatty only during tasks she works on independently. Being chatty appears to help the child relax and focus. Thus, what initially appeared to be disruptive behavior may be a strategy the child uses to achieve learning goals. If the teacher or provider curbs the child's chattiness, the child may find it more difficult to concentrate. By observing children's descriptive approaches, a teacher or provider gathers information about how to design learning environments that accommodate approaches that are beneficial for different children.

In the field of child assessment, what children learn and how they learn are rarely examined together. However, understanding a child's working approach can provide important insights when interpreting a child's performance level. Teachers and childcare providers recognize that children differ not only in performance levels or what they learn but also in how they acquire knowledge and skills. Working approaches help pinpoint the variables in the environments surrounding children that

hinder or enhance their learning. These factors shape whether a child works in a setting that invites strengths or exacerbates vulnerabilities. Assessment of the working approach is sensitive to the influence of a child's motivation, executive functioning, emotional regulation skills, and the way social factors impact a child's work.

Bridging Learning Profiles to Inform Next Steps in Teaching

Bridging assessment results produce a learning profile, rather than a single score, to describe the child's learning progress at a moment in time. This profile specifies children's performance on all *Bridging* activities plus their two types of working approaches. Table 2.4 summarizes the information that a teacher collects for each child during a full round of assessment on the five activities. The learning profile form is provided in Appendix D.

Table 2.4   A Child's Learning Profile

Child's Name: Age: Gender: Observational Date:		Pretend Play **Cross-Content Learnings**	Dictating a Story **Language and Literacy**	Acting Out a Story **Language and Literacy**	Counting Collections **Math**	Self-Portrait **Visual Arts**	Strong House for the 3 Pigs **STEM**
Date of assessment							
Performance rubric score							
Productive Working Approaches	Initial engagement						
	Focus and attention						
	Planfulness						
	Goal orientation						
	Resourcefulness						
	Cooperation						
Descriptive Working Approaches	Chattiness						
	Pace of work						
	Social referencing						
	Playfulness						

By studying and discussing the unique patterns in each child's profile, teachers can make informed adjustments for individual children. At the same time, by noting the patterns of learning for groups of children during different activities, teachers and providers also gain insights into how to organize the flow of learning activities to support all children. Differentiating for individual children while also holding the learning of all children in mind and ensuring everyone's progress is an important skill teachers continue to cultivate in their practice.

From our research, we can illustrate how teachers have used *Bridging* learning profile data to understand individual children as well as the whole class. Figure 2.1 presents the profile for three kindergarten children's performance across *Bridging* activities. The observed variability – both within a child's rubric scores and across children's profiles – is striking. The profiles reflect exactly what teachers report: Children begin school with different experiences and exposure to activities that contribute to school-entry proficiency.

With a baseline profile of individuals and the entire class, the teacher can watch movement over time for both individuals and the group. The profiles make it clear that an average score or a limited sampling of curriculum areas can obscure the actual range of children's talents and performance levels on different sets of skills in the different content areas. At any one moment, children are working on different kinds of skills at different levels of competence in different curriculum content areas.

Another example of how constructing children's profiles can contribute to teacher insights is presented in Figure 2.2. In this graph, we see the assessment results for one child based on *Bridging* assessment data collected three times during a year: in October, February, and May.

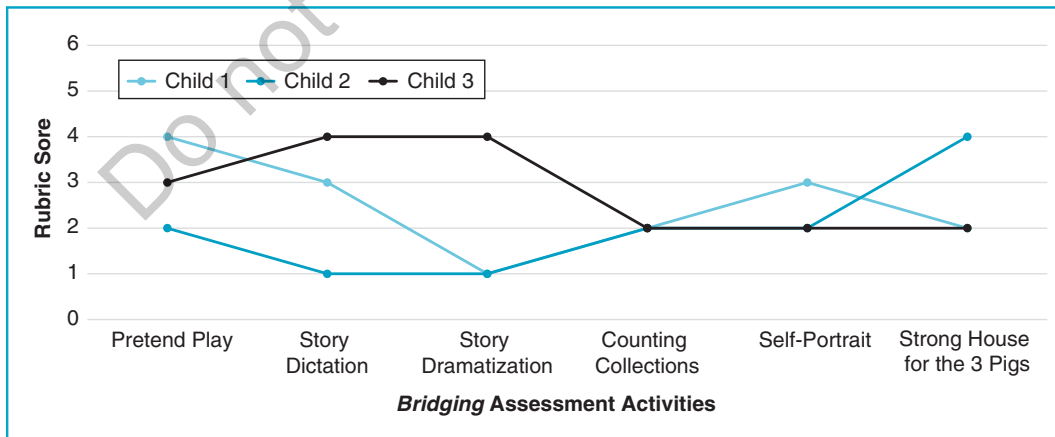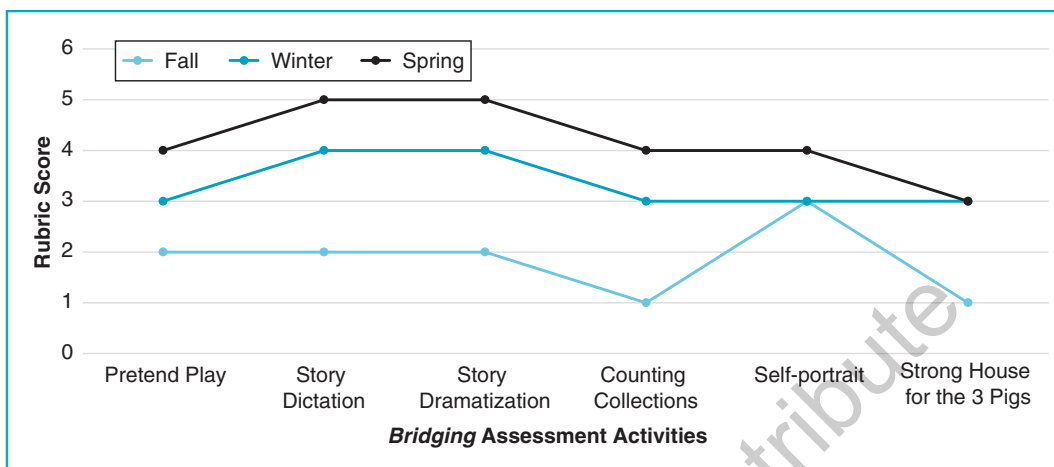**Figure 2.1** *Bridging* Learning Profiles of Three Kindergarten Children

Figure 2.2 *Bridging* Learning Profiles of One Kindergarten Child Three Times a Year

At all points, the child's profile is jagged – indicating that the child has enduring strengths and areas where the child is not as proficient. However, the patterns of unevenness shifted. In May, some areas were stronger than in October, whereas others had not kept pace. This profile reveals that performance at one point in time does not necessarily accurately predict a child's future developmental pathway.

Childcare and school learning experiences can advance a child's performance levels. For this to happen, however, an educator needs a framework to observe and understand the intersection between the path of each child's development and the course of development in that curriculum content domain. With the child and the learning domain in mind, the teacher and childcare provider then draws on various methods and makes decisions to stage both group and individual learning.

The purpose of constructing learning profiles is both to help teachers and providers understand each child as completely as possible and to give the educators the specific information they need to help every child meet educational goals. Using profiles makes it impossible to reduce the differences among children to simplistic rank ordering, with one child ranked higher than another. Rather, profiles reveal the complex nature of each child as a learner in terms of that child's interests, strengths, predispositions, and vulnerabilities. *Bridging* offers teachers more nuanced and specific information that points them to exactly what needs their attention. Chapter 3 explores the conceptual framework for *Bridging* that grounds this unique assessment for teaching and learning.