

## CHAPTER 8

# Performance Monitoring within a Tiered Instructional Model



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*Mrs. Donovan is a teacher in a blended preschool classroom that serves children with and without disabilities. The classroom consists of children ages 3 through 6. Four of the children have individualized education plans (IEPs) with specific goals and outcomes; six of the children are developing typically, and two children do not currently have an IEP, but data are being collected on their performance due to concerns related to their development. As was described in Chapter 7, Mrs. Donovan assessed all of her children with the use of a curriculum-based assessment (CBA) and engaged in the data-driven decision making (DDDM) process to determine the children's needs and to match instruction to those needs.*

*At this point, Mrs. Donovan realizes that a systematic approach to plan instruction is vital. However, Mrs. Donovan isn't sure how to complete the task. The prospect of tracking so many children and different abilities makes Mrs. Donovan feel a little overwhelmed. Mrs. Donovan wonders: How will her instruction change the children's behavior. How will she monitor multiple children's progress towards different outcomes? What kinds of information assist in making good decisions about the impact of instruction and intervention? When should her instruction change, and how long should the current instruction and intervention continue?*

Teachers make data-driven decisions on a regular basis. In fact, early research on teacher decision making and efficacy estimated that teachers made as many as 1,300 decisions daily (Jackson, 1968; Sandall & Schwartz 2002). Subsequent research has confirmed that both novice and experienced teachers make continuous decisions before, during, and after they provide instruction to their students (Ysseldyke, Thurlow, & Christenson, 1987). The types of decisions that teachers make are often quick and are done under ever-changing situations. Thus, teachers frequently rely on their past experience in order to make decisions.

The complexities of blended classrooms, however, have changed the types of decisions that teachers need to make. For example, when teachers serve children who are multi language learners, who may have a delay or disability, or who may exhibit challenging behaviors, the teachers need to rely on the systematic use of data, rather than their past experiences or intuition, to inform their decisions. Furthermore, the decisions that are made regarding instruction have implications for children's growth, development, and learning and thus should be based on valid, reliable, and sufficient evidence (Ysseldyke & Tardrew, 2007). To address the challenges of ongoing data collection and use, teachers need both informal and formal methods of gathering and using data to support instructional decisions, particularly until they become more experienced and the decisions become more common and automatic.

The processes and procedures for conducting assessment to plan instruction were addressed in Chapter 7. The purpose of Chapter 8 is to assist teachers in conducting assessment for the purpose of revising instruction (referred to as performance monitoring) in an effort to continuously support children. Chapter 8 is divided into four sections. First, we define assessment for the purpose of revising instruction. Second, we describe two broad

recommended practices for performance monitoring. Third, we share a tiered model of performance monitoring as a means of addressing the challenges of systematically collecting data for children in blended classrooms. Last, we discuss suggestions and strategies for sharing performance monitoring reports.

## PERFORMANCE MONITORING

Performance monitoring is an assessment process in which teachers revisit initial instructional decisions in terms of their accuracy and efficacy (i.e., they determine whether instructional efforts are promoting growth and development, leading to family satisfaction, and resulting in quality programming). Throughout the book, we will use the term *performance monitoring*, even though the term *progress monitoring* may be more familiar.

The term *performance monitoring* is used for three main reasons. First, performance views children's growth and development in terms of the acquisition of skills and also the use of functional abilities. In this context, the term *progress* may lead to thoughts about vertical gains in the development and acquisition of skills to a mastery criterion (i.e., as a child learns one skill, teams automatically move to the acquisition of the next and the next, without considering the child's developmental readiness or function) (Kearney, 2008). In other words, performance monitoring stresses the need to describe and examine changes in children's behaviors more broadly, in terms of acquisition and mastery as well as other critical and often qualitative attributes.

Second, many people associate the term progress with IEP data collection efforts. We prefer to use more blended or universal language, and performance seemed more applicable to all children. Performance emphasizes the continuous process of collecting and analyzing data on multiple and often interrelated domains of development. In addition, performance indicators can compare the impact of instruction on goals and objectives and compare actual results against expected results (achievement of outputs and progress towards outcomes).

Third, other terms, such as *formative assessment* and *summative assessment* (see Box 8.1), could be used for performance monitoring, but they may be unfamiliar to many teachers, may be used more often to refer to older students, and might not clearly convey or emphasize the type of practices that are necessary for use with young children, particularly those with diverse abilities (Fuchs & Fuchs, 1986: 1999).

Regardless of the term that is used, the notion of *monitoring* is key to understanding this assessment purpose. In general, monitoring refers to the systematic collection of information that provides ongoing feedback regarding children's performance over time. Monitoring allows teachers to track children's performance on individually targeted behaviors as well as on broad outcomes. Monitoring also allows for the systematic collection of comparative data to determine the significance or effect of instruction for individual children and groups of children (Raver, 2003).

Performance monitoring is applicable to all types of early childhood programs and philosophies. The implementation of assessment for performance

**BOX 8.1****“What Is the difference?”  
definitions of formative vs. summative assessment*****Formative***

Part of instructional practice

Allows timely adjustments to instruction

Helps teachers determine next steps during the learning process

Provides information at the classroom level to assist in making instructional revisions

Engages children in the assessment of their own learning through descriptive feedback

***Summative***

Given periodically to determine at a particular point in time what children know and do not know

Is an accountability measure that is generally used as part of the grading process

Allows teachers to gauge child learning relative to content standards at a particular point in time

Provides a snapshot of the child's performance at a specific interval of time

Illustrates cumulative representation of children's current competency through comprehensive monitoring

Source: Garrison & Ehringhaus (2007).

monitoring purposes, however, may vary in terms of who collects data; how they do so; and what information is gathered, documented, and summarized for use (McAfee & Leong, 2002; McConnell, 2000; McLean, Wolery, & Bailey, 2004). In other words, the recommended practices and tiered model of performance monitoring described here in Chapter 8 hold true regardless of the type of program or educational philosophy; however, the “look” or “feel” of performance monitoring may vary.

It is beyond the scope of the chapter to describe in detail how teachers working in different programs conceptualize and define performance monitoring. However, Table 8.1 highlights key characteristics of performance monitoring with regard to widely accepted early childhood programs and philosophies (e.g., High/Scope, Montessori). In general, although programs following particular philosophies may conceptualize and define performance monitoring differently, it is recommended that all teachers serving young children engage in a set of monitoring practices that are holistic and data driven (Branscombe, Castle, Dorsey, Surbeck, & Taylor, 2003; Copple & Bredekamp, 2009; Gestwicki, 1999; Grisham-Brown, Hallam, & Pretti-Frontczak, 2008; Grisham-Brown, Hemmeter, & Pretti-Frontczak, 2005; Pretti-Frontczak & Bricker, 2004; Sandall, Hemmeter, Smith, & McLean, 2005).

### **Recommended Performance Monitoring Practices**

As in the case of any assessment process, there are recommended practices to guide teachers. In regard to performance monitoring, two recommendations are prevalent across the literature. First, performance monitoring should be conceptualized holistically and should use both qualitative and quantitative methods, consider mediating factors, and consider the interdependence or

**Table 8.1.** Illustration of how various program types conceptualize and define performance monitoring

| Program Type                                                                                                                                                                                                                                                                                           | Who tends to gather information and how?                                                                                                                                                                                         | What information is documented and what methods are used to document?                                                                                                                  | How is information summarized for use in monitoring performance?                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Activity-based Intervention (ABI) (Macy, 2007; Pretti-Frontczak, & Bricker, 2004)                                                                                                                                                                                                                      | <p>WHO: Transdisciplinary teams that include family members</p> <p>HOW: Through observation of children during routine, planned and child directed activities; through interviews and conversations with familiar caregivers</p> | <p>WHAT: Children's strengths, interests, emerging skills, as well as their interests and preferences</p> <p>METHODS: Written descriptions, permanent products, and counts/tallies</p> | Narratively, numerically, and/or visually most often by compiling information on a curriculum-based assessment (CBA) |
| Discrete Trial Training Programs (Eikeseth, Svein, Smith, Trisram, & Eldevik, Erik Jahr, Sigmund. 2002; Lovaas, 1987)                                                                                                                                                                                  | <p>WHO: Therapist/consultant</p> <p>HOW: Through direct testing and prompting during intervention sessions</p>                                                                                                                   | <p>WHAT: Children's performance on individualized and discrete skills</p> <p>METHODS: Counts and tallies; time sampling procedures</p>                                                 | Visually most often through graphs                                                                                   |
| Creative Curriculum (Trister Dodge, D., Colker, L., & Heroman, C. (2002). Curriculum Developmental Continuum for Ages 3–5. Washington, DC: Teaching Strategies, Inc. 2006; Heroman, C., Burts, D. C., B., K., Bickart, T. (2010). Teaching Strategies GOLD. Washington, DC: Teaching Strategies, Inc.) | <p>WHO: Teachers and teaching assistants</p> <p>HOW: Through observation during classroom activities</p>                                                                                                                         | <p>WHAT: Children's actions and abilities</p> <p>METHODS: Written descriptions and numerical ratings</p>                                                                               | Narratively and visually most often through portfolios                                                               |
| HighScope (HighScope Educational Research Foundation, 2010; 2003; 2002)                                                                                                                                                                                                                                | <p>WHO: Teachers and teaching assistants</p> <p>HOW: Through observation during the plan, do, review sequence of daily activities</p>                                                                                            | <p>WHAT: Children's actions and abilities</p> <p>METHODS: Written descriptions (i.e. anecdotal notes and interviews), and counts and tallies</p>                                       | Narratively and numerically most often through discussions of work time                                              |

(continued)

**Table 8.1.** (continued)

| Program Type                              | Who tends to gather information and how?                                                                                                 | What information is documented and what methods are used to document?                                                                                                                                                                              | How is information summarized for use in monitoring performance?                                           |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Montessori (Montessori, 1976)             | <p>WHO: Directress</p> <p>HOW: Observe children engaged during individual work that follows their own natural interests</p>              | <p>WHAT: Children's inner directives from nature</p> <p>METHODS: Written descriptions (i.e. interviews, portfolios, audio/visual recordings of children's work, individual conferences, anecdotal notes, and counts and tallies</p>                | Narratively, numerically, and/or visually most often through word task analysis journals, and panel boards |
| Project-based (Katz, & Chard, 2000)       | <p>WHO: Teacher and teaching assistants</p> <p>HOW: Observe children in classroom activities following children's interests</p>          | <p>WHAT: Children's interest and involvement in their own learning</p> <p>METHODS: Anecdotal/observational notes and records, graphic organizers (e.g., curriculum web), interviews, permanent products, counts and tallies (i.e., interviews)</p> | Narratively, numerically, and/or visually most often through a display of objects                          |
| Reggio Emilia (Fraser, & Gestwicki, 2000) | <p>WHO: Teacher and parents</p> <p>HOW: Observation of children during daily activities, guided by specific questions and hypotheses</p> | <p>WHAT: Children's principles of respect, responsibility, and community</p> <p>METHODS: Family interviews, panel boards, photos, text, sculptures, drawings, and paintings</p>                                                                    | Narratively and visually most often through various media and symbols and display of objects               |

the relationship among development, culture, and experiences (Brinton & Fujiki, 2003; Hojnoski, Gischlar, & Missall, 2009(a),(b),(c); Klingner, Sorrells, & Barrera, 2007; Ross, Roberts, & Scott, 1998). Second, performance monitoring should be data driven and serve as a recursive process that involves gathering information, documenting, summarizing, conducting analysis, and interpreting data to inform and revise instruction (National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education, 2003; Rous & Hyson, 2007). Each of the recommended practices is described next.

### ***Holistic Approach to Performance Monitoring***

Recommended practices indicate that children's performance should be monitored holistically, meaning that teachers should understand the importance of viewing the whole child and the interdependence of all variables (e.g., all the factors that may affect performance (Copple & Bredekamp, 2009; Hojnoski & Missall, 2007). National Association for the Education of Young Children & National Association of Early Childhood Specialists in State Departments of Education, 2003; Rous & Hyson, 2007; Sandall et al., 2005). The first way to examine a child's performance holistically is to measure a child's performance *qualitatively* and *quantitatively*. The use of qualitative and quantitative measurement strategies provides a more complete picture of the child and the relative effectiveness of the instruction. Integration of both types of data informs and influences the development of an effective intervention. Qualitative data are rich descriptions of characteristics, cases, and settings (Blankenship, 1985). Quantitative data ascertain the magnitude, amount, or size of attributes, behaviors, or opinions. See Box 8.2 for an analogy of qualitative and quantitative measurement approaches to describe a farm.

In an effort to gather qualitative and quantitative information regarding children's performance, teachers should aim to examine more than the frequency of a child's performance, which tends to be quantitative in nature (e.g., the number of times that the behavior occurs), or the accuracy of a child's performance, which tends to be qualitative in nature (e.g., descriptions of how well a child performs an action). Teachers should consider qualitative attributes of frequency and quantitative attributes of accuracy, as well as the dimensions of latency (the time between a trigger and the occurrence of the target behavior), duration (how long the target or nontarget behavior lasts), and endurance (how long the target or nontarget behavior is repeated). Children's performance and abilities are quite complex; thus, it is necessary to look at multiple dimensions of a performance, using qualitative and quantitative measurement to understand those dimensions and make sound decisions. Teachers often use qualitative methods to assess all the children in their classroom. The qualitative method is based on observations, anecdotal notes, and family interviews, and it explores children's interests and preferences. Data collected through qualitative methods are often viewed as "richness of information" (Creswell, Plano, & Clark, 2007).

## BOX 8.2

## Qualitative and quantitative data example: The farm

*Qualitative*

Red and brown barn, red silo  
 Smells of mud and hay  
 Picturesque scene of fields and animals  
 Peeling paint on barn

*Quantitative*

2 buildings  
 3 pastures and 2 grassy areas  
 Costs \$10,000 per acre to run  
 24 × 48 foot barn

Consider the example of a teacher who has decided that a child in his class needs instruction towards the common outcome of participation. The teacher will need to measure how many times the child participates; whether the child's participation was appropriate, maintained, and pleasurable; and whether it resulted in positive interactions among children (Ingersoll & Schreibman, 2006). By collecting both qualitative and quantitative information, the teacher is able to gain a complete picture of the child's performance. Both methods have utility within the early childhood setting. Table 8.2 provides several examples of the quantitative and qualitative information that is needed to understand changes in children's performance across dimensions.

When teachers monitor children's performance holistically, they also understand the importance of viewing the *interdependence* of all variables that may affect performance, sometimes called mediating factors (Ross, Roberts, & Scott, 1998). Mediating factors are the social and psychological conditions that moderate the effects of instructional efforts. In other words, mediating factors are integral elements that may influence or contribute to the child's overall performance. Mediating factors can include attendance, home or community situations, medications, past exposure to instruction, and even the novelty of the situation. The mediating factors directly affect the child's rate of performance. For example, if the child is absent numerous days and does not receive instruction, then monitoring the child's performance of the skills that were taught when the child missed instruction is somewhat futile. Likewise, if a child's medication has recently changed, the data collected on the child's current level of performance may not accurately depict the child's overall capability.

Another aspect of understanding performance monitoring holistically is to recognize the interdependence between development, culture, and experience (i.e., the variables form a mutual and reciprocal relationship) (Darling-Hammond & Snyder, 2000; Creswell & Plano Clark, 2007). The



**Table 8.2.** Examples of quantitative and qualitative information needed to understand changes in child's performance

| Dimensions of behavior                          | Associated quantitative statements                                                                                                                                                                                                                   | Associated qualitative statements                                                                                                                                                                                                                                                                |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency (Number of times/how often)           | <ul style="list-style-type: none"> <li>• Number of times a child initiates</li> <li>• Number of times a child manipulates</li> <li>• Number of times a child participates</li> <li>• Number of times a child is successful</li> </ul>                | <ul style="list-style-type: none"> <li>• Each morning</li> <li>• Each afternoon</li> <li>• During most structured activities</li> <li>• On each occasion</li> <li>• Daily</li> <li>• Weekly</li> </ul>                                                                                           |
| Accuracy (How well/how intended)                | <ul style="list-style-type: none"> <li>• Number/percent correct</li> <li>• Number of steps completed correctly</li> <li>• Number/percent of trials completed correctly</li> </ul>                                                                    | <ul style="list-style-type: none"> <li>• Independently</li> <li>• Recognizably</li> <li>• Correctly</li> <li>• Quickly</li> <li>• Intelligibly</li> <li>• Functionally</li> <li>• Purposively</li> <li>• Precisely</li> </ul>                                                                    |
| Latency (Length of time to respond)             | <ul style="list-style-type: none"> <li>• Time between direction and child response</li> <li>• Time between cue and child response</li> <li>• Time between direction and child response</li> <li>• Time between request and child response</li> </ul> | <ul style="list-style-type: none"> <li>• Within the allotted time</li> <li>• Within the given time</li> <li>• Within a reasonable time</li> </ul>                                                                                                                                                |
| Duration (How long behavior lasts)              | <ul style="list-style-type: none"> <li>• How long a child cries</li> <li>• How long a child participates</li> <li>• How long a child plays near peers</li> <li>• How long a child stays on task</li> </ul>                                           | <ul style="list-style-type: none"> <li>• Across the majority of the school day</li> <li>• As long as expected</li> <li>• As long as expected of others</li> <li>• Throughout supper</li> <li>• During the field trip</li> <li>• While shopping at Target</li> </ul>                              |
| Endurance (How many times behavior is repeated) | <ul style="list-style-type: none"> <li>• Takes 10 steps</li> <li>• Communicates for 2 or more exchanges</li> <li>• Counts 10 objects</li> <li>• Remains seated for 3 minutes</li> </ul>                                                              | <ul style="list-style-type: none"> <li>• With persistence or perseverance</li> <li>• By overcoming challenges and increased difficulty</li> <li>• During most of the activity or event</li> <li>• With concentration or attentiveness</li> <li>• With sensitivity to physical stimuli</li> </ul> |

interaction of skills from developmental domains or areas means that multiple skills may need to be addressed before a child demonstrates improvement in a single skill. For example, Travis is missing both the skill of bringing hands to midline and the skill of joint attention (Godfrey, Grisham-Brown, Schuster, & Hemmeter, 2003; Ingersoll & Schreibman, 2006). Joint attention is defined as looking at appropriate object, person, or event during small-group activities (Bricker, 2002). Travis will need to make progress on both skills in order to attain either.

In addition to being affected by skill interrelatedness, children's development and growth are affected by culture. In the example of Travis, performance monitoring on the two skills—bringing hands to midline and joint attention—reveals that Travis is making significant progress on joint attention but minimal progress on the skill of bringing hands to midline. The teacher reviews the qualitative data from the family and discovers that the family feeds and dresses Travis, as is customary in their culture, so he has fewer opportunities to practice each skill than do other children his age, possibly contributing to a difference in Travis's performance.

Lastly, developmentally appropriate experiences promote children's active exploration of their world, manipulation of real objects, learning through hands-on activities, direct experiences, and exposure to contextual clues, all of which provide children with multiple opportunities to engage skills across developmental domains. Not all children may have had these experiences or any experience on a specific skill or outcome. Performance monitoring should occur across the child's experiences and consider the child's repertoire of learning in order to provide the teacher with accurate data. The recommended practice of being holistic is illustrated in a project approach for a group of children in Box 8.3.

#### BOX 8.3

##### **Case example: holistic performance monitoring within a project-based approach**

Ms. Wolf is a teacher in a blended preschool classroom that incorporates the project approach to plan, employ, and evaluate instruction. At the beginning of the year, Ms. Wolf assessed all the children in her classroom through quantitative methods regarding performance on specific skills. To do this, she completed the Get It Got It Go! and the Early Language and Literacy Classroom Observation. She qualitatively assessed all the children in her classroom through observations, anecdotal notes, family interviews, and an exploration of children's interests and preferences. Ms. Wolf determined the needs of each child in her classroom relative to specific skills and outcomes.

She then set up a bird feeder in an isolated spot on the playground. The children observed the bird feeder and the birds that visited it. Capitalizing on the children's interests in the birds and the bird feeder, Ms. Wolf prepared a project involving birds and bird feeders. She determined that the project integrated multiple content area outcomes, such as reading and math. She narrowed her focus within the content areas to address the outcomes of comprehension and counting. In her classroom, Ms. Wolf serves as a researcher and as a resource to children, providing guidance, information, and materials while stimulating independent thinking.

In order to assess the children's performance, Ms. Wolf sent home a questionnaire to the family to help inform her of the current children's knowledge and to continually inform her of mediating factors that might moderate the effects of instructional efforts. Concurrently, Ms. Wolf assessed the children to determine which topics were locally relevant and valued by them, by developing a web with the children. Ms. Wolf also considered the culture of the community and the children (e.g., do the children live in homes with windows through which they can see birds, do they have bird feeders at home, or do they live mainly on farms and view birds from a different perspective as a source of food?). Ms. Wolf's next step was to implement multiple activities throughout the classroom focused around the topics from the web and the chosen outcomes.

During the project, Ms. Wolf continued to use the recommended practices to track how and why the children were performing or not performing toward the outcomes of comprehension and counting (e.g., if a child is not performing toward an outcome, is it because he has been absent, because his medication has changed, or because the instruction has no relevance to him?) by discussing, expanding and/or narrowing the web with the children. Ms. Wolf also continually analyzes and interprets artifacts, experiences, discussions, and interviews with the children and the family to revise her instruction.

Ms. Wolf continued to consider the children's interest and involvement to revise instruction. The children continued to choose from a variety of activities provided by her. She capitalized on children's proficiencies as she considered their families' influence and the families' climate for learning. For example, she considered whether the family was providing additional instruction and whether there were any families that could share their knowledge of birds? When Ms. Wolf selected outcomes for the project, she was keenly aware that the children were the experts and that the mediating factors continued to influence the direction, activities, and outcomes of the bird project. The web she had created with her class demonstrated the way in which outcomes in different domains connect to one another. Ms. Wolf continued to monitor the performance of her students and revised instruction as necessary by observing the students, taking anecdotal notes, conducting family interviews, and taking into account children's preferences and interests; as well as summarizing, analyzing, and interpreting the children's pictures, narratives, bulletin boards, panel boards, and webs.

### ***Data-Driven Decision Making***

Chapter 1 stated that recommended practice includes making assessment for any data driven purposes; however, following the five-step DDDM process of gathering information, documenting, summarizing, analyzing, and interpreting is particularly critical with regard to performance monitoring. Unless teachers engage in DDDM to carry out performance monitoring, how will they make decisions regarding when and how to revise instruction? How will their instructional efforts be informed? How will a teacher know whether a child is responding to instructional efforts and when and how to change their approach? Chapter 7 described the five-step process to determine initial instruction that would meet individual and groups of children's needs. For performance monitoring, the process remains the same; however, the purpose is to revisit initial decisions and systematically modify teaching practices to ensure that all children are progressing toward identified outcomes. See Box 8.4 for an illustration of the decision-making model in action for monitoring a child's performance (i.e., monitoring the child's response to instruction by means of the five-step DDDM process).

**BOX 8.4****Data-driven decision making in action: the case study of Mikey**

Mikey is a 4-year, 3-month-old boy enrolled in a blended preschool program. Results from a CBA, family interviews, and team meetings suggested that there was concern regarding Mikey's ability to hold or steady an object with one hand while manipulating an object with the other hand. For example, he had trouble holding a bowl and feeding himself with a spoon and opening containers such as his milk carton, and he tended to avoid activities such as putting puzzles together and making jewelry. The ability to hold or steady an object with one hand while manipulating an object with the other hand is a **prerequisite** for Mikey to later create and represent ideas and concepts, play with toys cooperatively, and engage in more advanced fine motor activities such as writing, cutting, and zipping up a coat. Thus, Mikey's need was labeled a Tier 3 need and intentional, intensive, individualized instruction was planned. The following case example describes how Mikey's teacher went through the five-step DDDM process to 1) determine his starting performance, 2) track his subsequent response to instruction, and 3) revise instruction as needed.

**Step 1: Gathering Information**

The teacher and classroom assistant observed Mikey during a variety of daily activities to see when he was able to perform the target action or behavior (holding or steadying an object with one hand while manipulating an object with another). For example, they watched to see whether he would pour juice into a cup, hold a book and turn the pages, zip his coat, cut a piece of paper in half, hold a pot and stir, or hold a nail and hammer.

**Step 2: Documentation**

The teacher and classroom assistant created a simple data collection system of counts and tallies to document how often and where Mikey held or steadied an object with one hand while manipulating an object with the other hand. To minimize the time they spent writing, they created a checklist of possible ways that Mikey could demonstrate the target behavior. They walked around the room and made a comprehensive list of the different ways that Mikey could hold or steady an object with one hand while manipulating an object with the other hand by considering the opportunities at each classroom center and during the daily routine. (See Figure 8.1 for a copy of their data collection sheet.) The form also allowed them to indicate other examples when he demonstrated the target behavior and to indicate the setting or activity where the target behavior was observed. The teacher and classroom assistant merely marked whether they saw Mikey do any of the behaviors that were listed.

**Step 3: Summarization**

At the end of each day, the teacher and classroom assistant summarized Mikey's performance numerically by totaling the number of times he held an object with one hand and manipulated an object with the other hand. The total number for each day was then summarized visually by plotting the total number on a graph. Figure 8.2 illustrates Mikey's performance during baseline (i.e., his performance before more intensive and intentional instruction was provided). The period of time where data are collected and specific or targeted instruction is not provided, is referred to as baseline, and otherwise thought of as where a child started.

**Step 4: Analysis**

Mikey's teacher reviewed the daily visual summaries at the end of the week. She looked for patterns and trends that were related to Mikey's performance. At the end of a week of taking baseline data, she was able to determine that Mikey rarely

| Examples of target behavior (holding or steadying an object with one hand while manipulating an object with the other) | Tally each time target behavior is observed | Setting/Activity |
|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------|
| Hold backpack and unzip                                                                                                |                                             |                  |
| Hold paper and scribble                                                                                                |                                             |                  |
| Hold puzzle steady and place pieces                                                                                    |                                             |                  |
| Hold a book and turn the page                                                                                          |                                             |                  |
| Hold container (such as playdough) and remove lid                                                                      |                                             |                  |
| Hold a cup and pour liquid                                                                                             |                                             |                  |
| Hold a bowl/container and use spoon                                                                                    |                                             |                  |
| Hold a container and stir                                                                                              |                                             |                  |
| Hold paper and tear                                                                                                    |                                             |                  |
| Hold paper and peel a sticker                                                                                          |                                             |                  |
| Hold paper and crease                                                                                                  |                                             |                  |
| Hold a lace and string beads onto it                                                                                   |                                             |                  |
| Hold workbench and use hammer                                                                                          |                                             |                  |
| Hold a block while stacking another one on top                                                                         |                                             |                  |
| Hold pop-up toy and press button                                                                                       |                                             |                  |
| Hold bowl and scoop snack                                                                                              |                                             |                  |
| Hold bucket and scoop sand                                                                                             |                                             |                  |
| Other: _____                                                                                                           |                                             |                  |

**Narrative Comments:**

Mikey responds more often and with more success with increased prompts and continuous positive reinforcement.

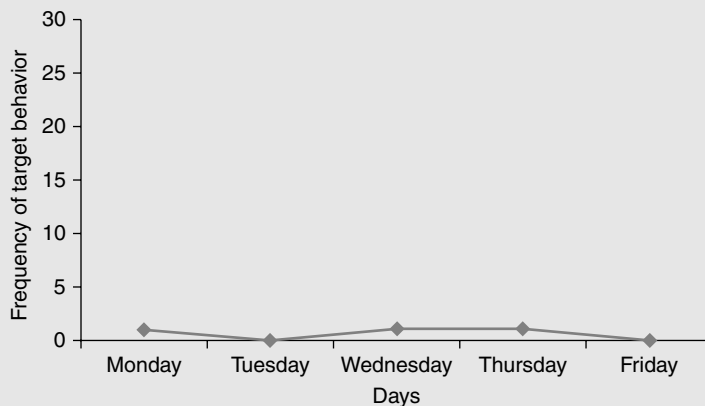
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**Figure 8.1.** Documentation sheet for target behaviors.

demonstrated the target behavior across 5 consecutive days of data collection. She concluded that his predictable response (i.e., his patterned response) was either to avoid touching or manipulating objects and toys or to try once and give up. The teacher also concluded that the trend (the way the direction of his performance was going) was relatively flat (i.e., it was not going up or down). The data showed little variability in the number of times that Mikey exhibited the target behavior (holding or steadying an object with one hand while manipulating with another) over the 5 days. To better direct her instruction, she went back to her data collection sheets to review which activities Mikey was participating in when he did perform the skill, and she noted that all three times were during sand-play.

**Step 5: Interpretation**

On the basis of her analysis of the data, Mikey's teacher was able to make decisions concerning how to better address Mikey's needs. She chose to embed frequent learning opportunities across daily routines and activities, particularly



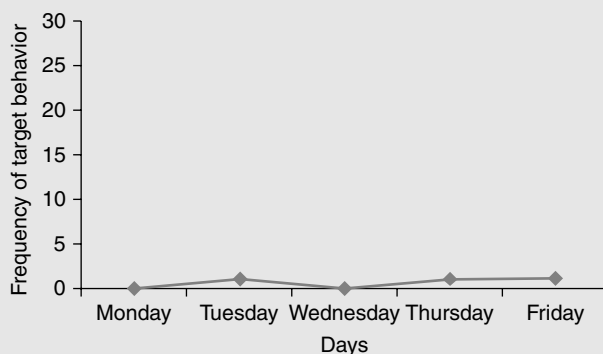
**Figure 8.2.** Mikey's baseline performance.

during sand-play. The embedded learning opportunities matched Mikey's interests and preferences and increased the chance that he would participate in the activities and demonstrate the target behavior.

### **First week: Instruction**

As the individualized, intensive, and intentional instruction was provided, the teacher and classroom assistant continued to *gather* information about Mikey and *document* his performance using the checklist in Figure 8.1. At the end of each week they numerically *summarized* his performance by totaling the number of times Mikey held or steadied an object with one hand while manipulating an object with the other. Then they summarized the total number for each day visually by plotting that number on a graph as they had done during baseline. Figure 8.3 provides a visual summary of the data that were collected during the first week of instruction.

As she had done for the data collected during the baseline week, the teacher *analyzed* the data summaries, looking for patterns and trends related to Mikey's performance. She asked herself the following questions as a guide during the analysis: Is Mikey exhibiting the same behavior or lack of the same behavior across multiple settings? Is the intervention affecting the target behavior? When, why, and how is the intervention changing Mikey's performance? She expected, given the more intensive instructional efforts, that there would be a change in Mikey's performance. However, there were no changes during the first week of instruction (i.e., there wasn't a change in the pattern, trend, or variability



**Figure 8.3.** First week of intentional, intense, individualized instruction.

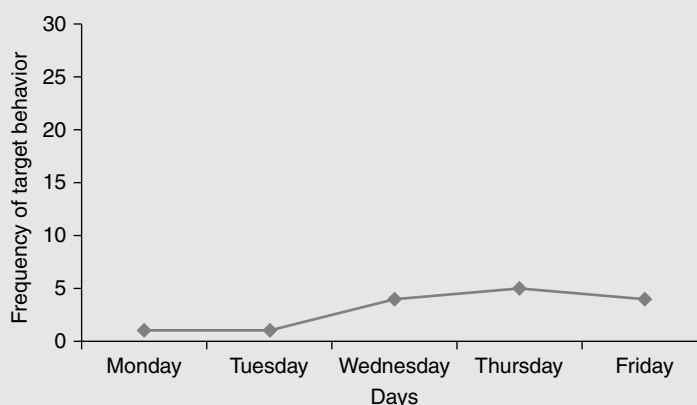
of his behavior compared with baseline). In other words, Mikey continued to rarely demonstrate the target behavior and to exhibit it in only one setting (sandbox). From the data, the teacher *interpreted* the situation as indicating that additional learning opportunities were needed and that she and the classroom assistant needed to consistently prompt and give feedback to Mikey. Therefore, she revised the intervention plan to include specific ways to prompt Mikey to engage in the target behavior. For example, the intervention plan included phrases that teachers could say or things that teachers could do during activities to prompt Mikey (e.g., help him hold an object while he acted on another, model how they held one object and acted on another, direct Mikey to demonstrate the target behavior). She also determined ways for classroom staff to consistently respond to Mikey depending on whether he demonstrated the target behavior. Staff responses would include providing Mikey with positive reinforcement (e.g., smiles, high fives, clapping) when he did demonstrate the target behavior and increasing the adult support when he did not.

### ***Week 2: Instruction Revised***

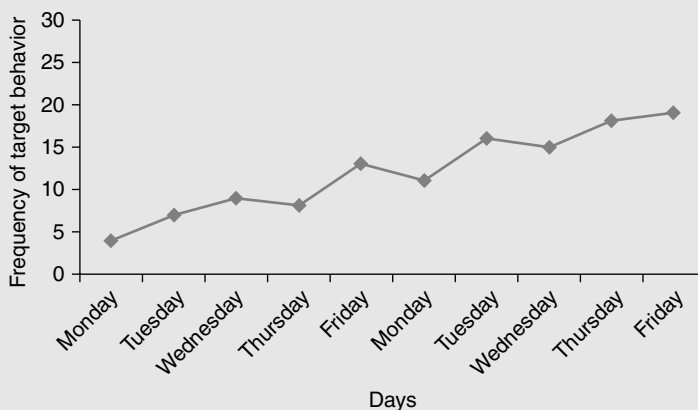
Because performance monitoring is a continuous process, the teacher and classroom assistant continued to provide Tier 3 instruction and to move through the five-step process. At the end of each week they summarized Mikey's performance on the target behavior. Figure 8.4 provides a visual summary of the data that were collected during the second week, following the implementation of the revised instruction plan.

Again, Mikey's teacher considered the guiding questions as she looked for patterns and trends. Furthermore, she considered whether there was a change in the level of his performance during the second week which might indicate that he was engaging in the target behavior more often and how quickly that change occurred. By the second week, Mikey began to predictably demonstrate the target behavior multiple times a day and during more than one activity (i.e., during housekeeping and sand-play). Week 2 data also showed an upward trend in terms of the frequency with which he demonstrated the target behavior. The visual summary also showed that the level increased rather quickly and consistently compared with the level in the first week.

On the basis of her *analysis* of the data, Mikey's teacher *interpreted* the situation as indicating that she should continue with the intervention as planned and implemented during the second week because Mikey appeared to be responding to the instruction. She made sure to focus on encouraging Mikey to engage in many activities that would require the target behavior, in order to increase his generalization and use of the target behavior.



**Figure 8.4.** Second week of intentional, intense, individualized instruction.



**Figure 8.5.** Third and fourth weeks of intentional, intense, individualized instruction.

The five-step process continued for 2 more weeks of instruction. Figure 8.5 shows a visual summary of the data collected during the third and fourth weeks. Because the teacher wanted Mikey to generalize the behavior (use it consistently across activities), she reviewed the checklists to see whether any new patterns emerged in terms of where the target behavior was being used. She discovered that Mikey was consistently demonstrating the target behavior across many settings and in a variety of activities. These settings and activities included snack time (pouring and using a spoon), art center (scribbling, tearing, opening the glue stick), and construction (building with blocks and using workbench). When she reviewed the data, Mikey's teacher was also able to see a continued upward trend, meaning that he engaged in the target behavior with increasing frequency. When she compared the summary from week 2 with those of weeks 3 and 4, Mikey's teacher saw that the level continued to increase and that there was little variability in performance from day to day.

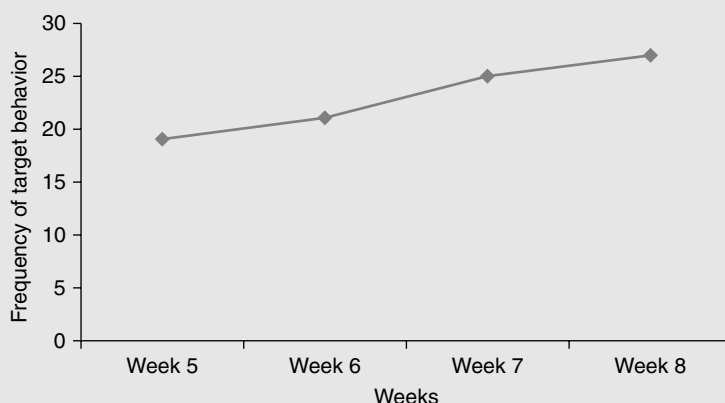
### **Maintenance**

On the basis of her analysis of 4 weeks of data, Mikey's teacher decided that the intervention plan continued to be effective. Because Mikey was demonstrating the target behavior across multiple settings and activities, she decided to reduce the intensity of the instruction. She decided to continue to provide many opportunities for him to practice the behavior throughout the day; however, she reduced the number of specific prompts and consequences that were provided. Mikey's teacher also decided to collect data by means of weekly probes of the target behavior. Thus, 1 day per week she gathered information about Mikey across activities and documented his use of the target behavior in the absence of specific prompts and consequences (i.e., she repeated the five-step process for 4 more weeks). Figure 8.6 shows a visual summary of the data collected over 4 weeks of maintenance.

On the basis of these data, Mikey's teacher saw that he continued to demonstrate the target behavior, and a review of the checklists revealed that he continued to demonstrate the behavior across multiple settings and activities. In all, the maintenance data continued to show an upward trend, meaning that he was continuing to increase his use of the target behavior. On the basis of her analysis, Mikey's teacher decided that she had sufficient data to conclude that Mikey had accomplished the target behavior. Thus, it was time for the teacher to reevaluate



Mikey's overall performance across common outcomes and determine what skill or concept he needed to learn next considering his developmental readiness and need to engage and participate during daily activities.

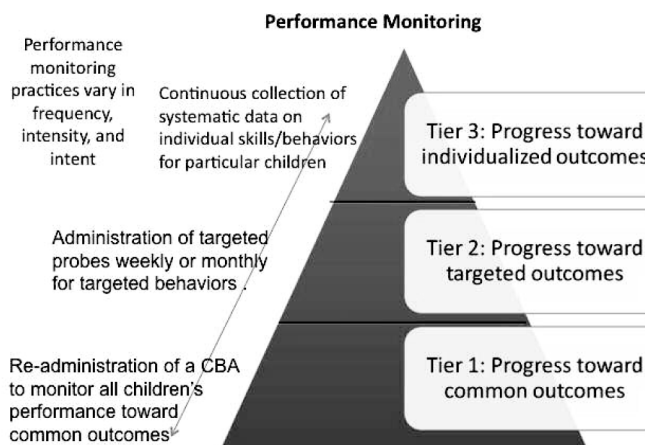


**Figure 8.6.** Maintenance data.

### Tiered Model of Performance Monitoring

A tiered model of performance monitoring provides a framework for making revisions to instruction and matches instructional efforts to children's needs. In other words, just as tiered levels of instruction were matched to identified needs, this model tiers performance-monitoring efforts and matches the frequency, intensity, and intent of efforts to the level of need and instruction. For example, if the needs of a child on a particular skill are determined to be at Tier 2 (targeted and temporary concentrated instruction), then performance monitoring efforts will also be at Tier 2 (targeted and temporary) so that the teacher can make timely decisions on whether the instruction is working and whether any changes in instruction need to occur. A tiered model of performance monitoring is illustrated in Figure 8.7, and each tier is described next.

Within Tier 1, all children's performance toward common outcomes is monitored. As defined earlier, common outcomes are the standards and milestones that all children are expected to achieve (regardless of ability) at a given age. Teachers monitor children's performance toward standards and developmentally appropriate milestones at least once a year, preferably (given the variability of development during the early years) three or four times a year. Tier 1 performance monitoring can include a readministration of an authentic and comprehensive assessment for all children (i.e., readministration of a CBA). Systematic monitoring of children's Tier 1 performance informs teachers whether children's needs have continued to develop as expected and whether they require a change in the frequency and intensity of instruction and/or the skills that are being targeted.



**Figure 8.7.** Depiction of performance monitoring as tiered model.

For example, Ms. Grissom readministers a CBA to all children halfway through the year. Ms. Grissom summarizes and analyzes the information she collects. She then uses the information from the second administration of her CBA to determine whether any of the children who were previously determined to have a Tier 1 need now require a different level of instruction, given any of the mediating factors that were discussed earlier. For example, after interpreting Danny's information, she noticed that he fell below the cutoff score for the gross motor area of development that is provided in the CBA she uses. Back in October, Danny's gross motor skills were on track; however, after Danny had surgery to repair a tendon in his foot, he was unable to receive the Tier 1 instruction (i.e., missed several weeks of preschool). Now Danny's needs in gross motor development may require Tier 2 instruction for a temporary length of time while his foot is recovering.

Within Tier 2, performance monitoring consists of more frequent and targeted efforts and is not conducted on all skills for all children. In other words, at Tier 2, teachers gather information on select groups of children who may have similar needs related to a component of a common outcome, may be challenged to express themselves verbally or nonverbally as expected for their age, or may have a skill that has stalled and needs a boost of instruction to become more sophisticated and/or reach the expected level. At Tier 2, teachers may collect weekly or monthly data (i.e., administer targeted probes) to better track how children are responding to instructional efforts. In Danny's situation, for example, Ms. Grissom may determine a plan for targeted and temporary instruction to improve Danny's range of motion for his foot and ankle based on recommendations from his physical therapist. She may set a goal of having him kick a ball back and forth with a peer daily. Ms. Grissom then performs a weekly assessment of Danny's performance, measuring

the frequency and duration that he can kick the ball back and forth with a peer. Each week after gathering information and documenting, Ms. Grissom summarizes, analyzes, and interprets the data. On the basis of the five-step process, Ms. Grissom may come to realize that Danny has increased the frequency (the number of times he kicks the ball back and forth) as well as the duration (how long he is able to continue kicking the ball back and forth). By the end of the third week, Ms. Grissom concludes that Danny no longer needs the temporary, targeted instruction, and Ms. Grissom and the physical therapist return Danny to Tier 1 instruction and monitoring.

Within Tier 3, performance monitoring consists of continuous collection of systematic data on individual skills and behaviors for particular children. (Refer to Figure 8.7.) In other words, at Tier 3 teachers gather data for individual children who are missing foundational or prerequisite skills that are deemed necessary for the children to make progress toward a common goal or outcome. The child may not have demonstrated performance within Tier 2 or may have a Tier 3 need that circumvented the implementation of Tier 2 efforts. At Tier 3, teachers may collect minute-by-minute, hour-by-hour, or daily counts and tallies, written narratives, and/or permanent products that are related to individualized skills. On the basis of the five-step DDDM process, Ms. Grissom will keep a tally sheet that records each time the correct or incorrect response occurred. She monitors performance on the skill every hour to inform instruction. At the end of the day, she summarizes, analyzes, and interprets the data sheet to determine whether Danny is performing the specific skill as expected (i.e., whether he is showing an immediacy of change and a positive trend line and/or pattern) or whether the instruction needs to be modified and, if so, how (i.e., through examination of antecedent, behavior, and consequence). Tier 3 performance monitoring is designed and employed to supplement, enhance, and support Tier 1 and Tier 2 instruction by remediation of the relevant area and development of compensatory strategies. Tier 3 performance monitoring (and instruction) on the same skill are intentionally revisited and modified on the basis of the present level of functioning. Closely monitoring performance allows teachers to revise instruction routinely to ensure that the child is reaching his or her maximum potential. Appendix A provides a case example of how to engage in a tiered model of performance monitoring for serving groups of children in a blended program.

## Sharing Performance Monitoring Information

A logical step after decisions are made regarding children's performance may be to report the changes (good, bad, or otherwise). In actuality, family members and other team members should be involved throughout the performance monitoring process, thus making an additional step of reporting to others unnecessary. There are times, however, when teachers are expected to share performance monitoring information, such as during

parent–teacher conferences, transition meetings, and IEP meetings. The next section provides suggestions and strategies for sharing performance monitoring information.

### ***Communicating with families***

As was noted in Chapter 3, teachers can employ a number of specific strategies to involve family members as partners in their children’s education and to enhance communication with families (Woods & McCormick, 2002). Table 8.3 provides communication strategies that may be useful to

**Table 8.3.** Useful communication strategies for discussing a child’s performance with families

| Strategies       | Teacher Actions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Active listening | <ul style="list-style-type: none"> <li>• Allow for wait time (i.e., allow for time in between comments, questions, suggestions)</li> <li>• Be willing to listen to the family’s concerns/questions/suggestions, and preferences</li> <li>• Demonstrate active listening through nonverbal communication (e.g., nodding head, eye contact)</li> <li>• Engage in reflective listening skills (i.e., repeat what was heard) to affirm understanding</li> <li>• Use verbal and nonverbal communication (i.e., lean forward and show interest, mirror the other’s persons body language)</li> </ul> |
| Acknowledgement  | <ul style="list-style-type: none"> <li>• Share relevant and pertinent data from the family</li> <li>• Recognize family’s priorities and opinions through verbal and nonverbal means</li> <li>• Allow for differences in opinions</li> <li>• Mention child’s strengths</li> </ul>                                                                                                                                                                                                                                                                                                               |
| Collaborate      | <ul style="list-style-type: none"> <li>• Seek alternative solutions aimed to meet the needs of families</li> <li>• Engage in a two-way process of information sharing and understanding (i.e., cultural reciprocity)</li> <li>• Adapt your professional recommendations to the value system of the family</li> <li>• Aim for consensus versus total agreement</li> </ul>                                                                                                                                                                                                                       |
| Participation    | <ul style="list-style-type: none"> <li>• Actively participate in conversations, minimize distractions</li> <li>• Respond in a timely manner</li> <li>• Promote a positive atmosphere (welcome, reduce silence)</li> <li>• Allow access by families to data (qualitative and quantitative data)</li> </ul>                                                                                                                                                                                                                                                                                      |
| Respect          | <ul style="list-style-type: none"> <li>• Allow for differences in opinions</li> <li>• Seek alternative solutions which meet the needs of families</li> <li>• Realize the family is the first teacher</li> <li>• Allow families to complete thoughts and sentences before responding</li> <li>• Minimize use of jargon</li> </ul>                                                                                                                                                                                                                                                               |
| Sharing          | <ul style="list-style-type: none"> <li>• Maximize opportunities to use or enjoy something jointly with others</li> <li>• Communicate strengths of child and family</li> <li>• Keep information confidential</li> <li>• Share information in a variety of ways (i.e., in person, e-mails, notes, text, web sites)</li> </ul>                                                                                                                                                                                                                                                                    |

teachers when they discuss performance monitoring information with families. The overarching suggestion is to ensure that communication is bidirectional, meaning that teachers should avoid a one-way reporting of information to families and should strive to have a conversation during which both parties share information, concerns, and ideas. Despite their best efforts to communicate effectively, teachers often express their concern about how to talk to families regarding a child who isn't making desired progress, how to deliver news about a child's lack of progress in development, and how to discuss challenging behaviors that are seen in the classroom. When families are involved throughout the processes of program planning, instruction, and performance monitoring, the conversations about difficult topics become less like meetings in which teachers are telling families something and more like a partnership in which each partner jointly recognizes when there may be reason for concern. Thus, sharing performance monitoring information should not be a point-in-time event, but rather a continuous effort (Wolery, 2004).

Teachers also express concern and frustration when they feel that their attempts to share information with families have been made to no avail. For example, a teacher may write notes home using a communication notebook, but family members "never write back," leading the teacher to assume that the notebook has never been opened. Before becoming frustrated, teachers need to consider several factors. First, has the teacher discussed with families the intent of the communication notebook? In other words, do families know what to expect from the teacher and what the teacher expects in return? Second, has the teacher considered literacy and language as possible barriers to a family member's access and participation in communicating through a written format? Third, has the teacher talked to the family about its preferences in terms of mode and frequency of sharing information? In other words, some families may enjoy communicating back and forth on a daily or weekly basis; others may appreciate a less interactive mode such as a monthly newsletter, an updated web site, or more personal, but less frequent, phone calls; while still others may want frequent informal modes of communication such as texting, twittering, and e-mailing.

Keeping the proper perspective on the interaction can make it easier for teachers to share difficult or sensitive information. For example, if a teacher has evidence that a child's development is delayed and that the child needs further testing or perhaps special services, the teacher may fear that the family will not agree or may become upset at hearing the news. Keep in mind that it is not the teacher's job to convince a family how it should feel or what it should think, or to keep family members from hearing objective concerns. It is the teacher's job, as a developmental specialist, to share all information as objectively and meaningfully as possible and then engage in a discussion with the family about what the information may mean, what the next steps might be,

and how the family feels about the information. Sometimes families will need time to process the information or need to hear it again or in a different way, and they need to know that they can ask questions and express their own concerns. Thus, the key to any difficult situation is to ensure that there is a relationship of trust and open communication already in place.

### ***How and When to Share Performance Monitoring Information***

When teachers share performance monitoring information with families, as discussed in Chapter 7 with regard to summarizing, it is best for them to use a mixture of methods to convey children's strengths, emerging skills, and areas of continued need. For example, matching a picture with a few written notes or a graph with percentages may have more meaning than a picture, a note, a graph, or a percentage standing alone. Mixing and matching methods also ensures that the information is being conveyed through multiple means of representation. In other words, teachers should document performance data by varying portrayals of the child's current level of performance. Documenting data in a mixed manner helps teachers to prepare and articulate their findings to others.

Furthermore, as is the case with needs and instruction, performance monitoring, reporting efforts should be tiered (i.e., the frequency and intensity of sharing should be tiered). For example, Tier 1 performance toward common outcomes may be shared with all children's families two, three, or four times a year. Tier 2 performance monitoring information may be shared only with the families of select groups of children each month. Lastly, Tier 3 performance monitoring information may be shared with individual families on a weekly basis. Again, like other aspects of tiering, the frequency and intensity (meaning the amount of effort that is put forth) vary, given the tier of performance monitoring. Teachers should avoid a one-size-fits-all approach such as doing a comprehensive, detailed report on each individual child regarding all skills and abilities (Schwartz & Olswang, 1996). When common outcomes are being addressed through Tier 1 instruction, broad samples of a child's performance are sufficient.

Regardless of the format or frequency of sharing information, most teachers will be faced at one point or another with the task of creating a "report card" and sharing a child's "progress" with families. Unfortunately, report cards are a feature of push-down policies that may work in a K-12 environment but that are not very helpful in a blended early childhood classrooms (Cavallaro & Haney, 1999; Schwartz & Olswang 1996). Given that young children who are served in blended classrooms have diverse abilities and that all children will have tiered needs, the idea of reporting

**BOX 8.5****Suggestions for developing report cards within blended programs**

1. Create report cards that contain information regarding children's performance on Tier 1 outcomes. For example, children's performance as measured by and summarized using a comprehensive curriculum-based assessment.
2. Organize Tier 1 outcomes into manageable parts of developmental domains and content areas (i.e., create classifications or strands that represent behaviors from a broad domain/content area, but not all the specific skills). For example, Tier 1 outcome reports should include what is expected of all children regarding participation, counting, classifying, one-to-one correspondence, and engaging in cooperative activities.
3. Include qualitative AND quantitative data regarding children's performance toward common outcomes. For example, information on how the child has increased the number of activities they participates in AND the types of activities (e.g., small group, large group, those with movement and music, those requiring manipulation of small objects) the child consistently participates in.
4. Include information as needed for subgroups or individual children regarding performances toward Tier 2 and Tier 3 outcomes. For example, include narrative, numerical, and/or visual summaries of a child's performance toward targeted or individualized outcomes such as degree to which they are understood by others, extent to which they have gained prerequisite or foundational skills that will increase their access, participation, and progress toward common outcomes, and/or how they have responded to instruction regarding a missing component of a common outcomes.

performance data for all children across levels can be an overwhelming task. Box 8.5 includes suggestions for developing report cards within blended programs.

**SUMMARY**

The purpose of Chapter 8 was to describe recommended practices for performance monitoring for individuals and groups of children. First, the chapter defined and discussed assessment for the purpose of revising instruction (i.e., for performance monitoring). Second, information was provided on two broad recommended practices for performance monitoring—a holistic approach and a data-driven process—and the recommendations were illustrated. Next, a tiered model of performance monitoring was shared as a means of addressing the challenges of systematically collecting data for children who are served in blended classrooms. Multiple case examples exemplified how to engage in the tiered model. Lastly, suggestions and strategies for sharing performance-monitoring reports were discussed.

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## APPENDIX A

### Case Example of Tiered Performance Monitoring

Chapter 7 described how Mrs. Donovan and her team used a CBA to follow all of her children's current abilities, interests, preferences, and family priorities and to design instructional opportunities to match each child's level of need (Gickling & Thompson, 1985; Pretti-Frontczak, 2002; Woods & McCormick, 2002). We now continue with the three case examples introduced in Chapter 7 to illustrate how Mrs. Donovan revised her initial instructional decisions with the use of a tiered model of performance monitoring. Specifically, case 1 illustrates performance monitoring related to Tier 1, case 2 relates to Tier 2 practices, and case 3 relates to Tier 3 practices.

#### TIER 1 PERFORMANCE MONITORING

Following several months of instruction, Mrs. Donovan and her team again *gathered* information on *all* children during daily activities, interviewed familiar caregivers, and conducted authentic assessment activities as needed. All children's performance was *documented* by means of numerical scores and written notes to complete the AEPS (i.e., the AEPS was administered for a second time to *all* children regardless of their abilities and level of need as determined earlier in the year). As noted in Chapter 7, a score of 2 indicates that the child independently and consistently met item criteria. A score of 1 indicates that 1) the specific criteria were partially met, 2) the child needed assistance, 3) the child inconsistently performed the criteria, and/or 4) the child's performance toward the criteria was emerging. A score of 0 indicates that the child was not yet able to perform or meet the stated item criteria. Specific notes were used to indicate additional information regarding children's performance. For example, a note of "Q" indicates that quality was of concern for the specific item, "B" indicates that the child's behavior interfered with his or her performance, and "D" indicates that a direct prompt was needed. Table 8.4 illustrates Starr's performance on a portion of AEPS items that are related to engaging in cooperative activities for both administration periods (i.e., October and March).

Mrs. Donovan then *summarized* each child's performance across major areas of the AEPS (e.g., engaging in cooperative activities), using a

**Table 8.4.** Starr's performance during October and March

|                                                                             | Starr   |      |                                                   |       |      |                            |
|-----------------------------------------------------------------------------|---------|------|---------------------------------------------------|-------|------|----------------------------|
|                                                                             | October |      |                                                   | March |      |                            |
|                                                                             | Score   | Note | Comments                                          | Score | Note | Comments                   |
| AEPS Items                                                                  |         |      |                                                   |       |      |                            |
| <b>Participation in small group (watches, listens, participates)</b>        | 1       |      |                                                   | 1     |      |                            |
| Interacts appropriately with materials during small-group activities        | 1       |      | Will repeat actions she has seen others engage in | 1     |      |                            |
| Responds appropriately to directions during small-group activities          | 2       |      |                                                   | 2     |      |                            |
| Looks at appropriate object, person, or event during small-group activities | 2       |      |                                                   | 2     |      |                            |
| <b>Participation in large group (watches, listens, participates)</b>        | 1       |      | Will follow lead of other children                | 1     |      |                            |
| Interacts appropriately with materials during large-group activities        | 1       |      |                                                   | 2     |      |                            |
| Responds appropriately to directions during large-group activities          | 2       |      |                                                   | 2     |      |                            |
| Looks at appropriate object, person, or event during large-group activities | 2       |      |                                                   | 2     |      |                            |
| <b>Interacts with others as play partners</b>                               | 1       |      |                                                   | 1     |      | With specific friends      |
| Responds to others in distress or need                                      | 0       |      |                                                   | 0     |      |                            |
| Establishes and maintains proximity to others                               | 1       | D    | Needs to be invited to be with others             | 1     |      | With certain peers         |
| Takes turns with others                                                     | 1       | D    | Will give an item, but not request from others    | 1     |      | Beginning to ask for turns |
| Initiates greeting to others who are familiar                               | 0       |      | Does not initiate                                 | 1     |      | Beginning to demonstrate   |
| Responds to affective initiations from others                               | 2       |      |                                                   | 2     |      |                            |
| <b>Initiates cooperative activity</b>                                       | 0       |      | Does not initiate                                 | 1     |      | Beginning to demonstrate   |
| Joins others in cooperative activity                                        | 1       | D    | When invited/ prompted                            | 1     |      | Specific peers/ activities |

*(continued)*

**Table 8.4.** (continued)

|                                                 | Starr   |      |                                     |       |      |                     |
|-------------------------------------------------|---------|------|-------------------------------------|-------|------|---------------------|
|                                                 | October |      |                                     | March |      |                     |
|                                                 | Score   | Note | Comments                            | Score | Note | Comments            |
| Maintains cooperative participation with others | 1       | D    |                                     | 1     |      |                     |
| Shares or exchanges objects                     | 1       | D    | Will give an item if directly asked | 1     |      | With specific peers |

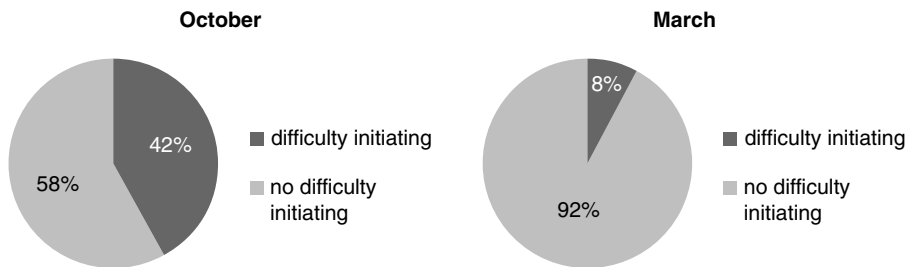
Key: D, direct prompt needed

combination of narrative summaries, visual summaries, and numerical summaries. The narrative summaries captured Mrs. Donovan's self-reflections regarding the performance of the entire group of children. See Figure 8.8 for an example of a narrative summary regarding a group of children's performance related to engaging in cooperative activities. Since "initiation" was identified as a need for several children and is considered to be a key part of engaging in cooperative activities, Mrs. Donovan created a visual summary of the class' performance around items related to initiation. (See Figure 8.9.) Lastly, numerical summaries included each child's percentage of items mastered, emerging, and not yet demonstrated. Figure 8.10 shows the combined numerical summary for the entire class on the assessment items that are related to engaging in cooperative activities.

Mrs. Donovan then *analyzed* the summaries. She saw that Chuck, Rob, Gabriel, Heather, Rosa, Jacob, and Jared (i.e., the children who were originally identified as being at Tier 1 for engaging in cooperative activities) continued to demonstrate patterns of expected performance. The seven children showed an upward trend of development over time, as evidenced by an increase in the number of items that were marked "mastered." Starr, Jamel, Lisa, and Jamie also showed an increase in the number of items that were marked "mastered." Although Trevor made only small gains numerically, the notes from the AEPS showed that he had fewer items affected by interfering behaviors.

3/12—Chuck, Rob, Gabriel, Heather, Rosa, Jacob, and Jared continue to engage in cooperative play, initiating activities and greeting one another regularly. Jamel now greets certain peers upon arrival. Starr responds to peers, and will initiate play with Heather and Rosa. Jamie's peers can now understand what she is saying therefore Jamie has begun to talk to peers during play. Lisa will initiate greetings, specifically to adults. Trevor engages in elaborate play scenarios; however, he does not initiate or invite others into play.

**Figure 8.8.** Narrative summary of performance of a group of children.



**Figure 8.9.** Percentage of children having difficulty with items involving initiation.

Using her analysis, Mrs. Donovan *interpreted* that in terms of Tier 1, all of the children made progress toward the common outcome of engaging in cooperative activities at different rates regarding different aspects of development. Specifically, Starr and Jamel made progress by beginning to demonstrate the ability to initiate greetings and cooperative activities. Furthermore, her analysis of the notes on the AEPS indicated that fewer Qs were noted for Lisa and Jamie, which she interpreted as showing growth since October, when they demonstrated a pattern of being difficult to understand. When she considered Trever's minimal numeric progress, she understood that Trever wouldn't show changes toward the common outcome until his Tier 3 needs were fully addressed. Trever's progress was

|         | % of items mastered |       | % of items emerging |       | % of items not yet demonstrated |       |
|---------|---------------------|-------|---------------------|-------|---------------------------------|-------|
|         | Oct                 | March | Oct                 | March | Oct                             | March |
| Gabriel | 39                  | 61    | 61                  | 39    | 0                               | 0     |
| Jamie   | 11                  | 11    | 83                  | 89    | 6                               | 0     |
| Trever  | 0                   | 0     | 61                  | 72    | 39                              | 28    |
| Rosa    | 78                  | 83    | 22                  | 17    | 0                               | 0     |
| Starr   | 28                  | 33    | 55                  | 61    | 17                              | 6     |
| Chuck   | 39                  | 61    | 61                  | 39    | 0                               | 0     |
| Jamel   | 17                  | 22    | 44                  | 78    | 39                              | 0     |
| Rob     | 67                  | 72    | 33                  | 28    | 0                               | 0     |
| Jacob   | 78                  | 83    | 22                  | 17    | 0                               | 0     |
| Lisa    | 22                  | 22    | 72                  | 78    | 6                               | 0     |
| Jared   | 39                  | 61    | 61                  | 39    | 0                               | 0     |
| Heather | 67                  | 72    | 33                  | 28    | 0                               | 0     |

**Figure 8.10.** Numerical summary of individual child's performance on the AEPS

evidenced by the fact that he was no longer demonstrating as many interfering behaviors and that he was beginning to follow one-step directions.

## TIER 2 PERFORMANCE MONITORING

As Mrs. Donovan provided Tier 2 instruction, she continued to implement the five-step DDDM process. In addition to making efforts at Tier 1, she collected more frequent data on select children who had Tier 2 needs and received Tier 2 instruction.

### Starr and Jamel

Mrs. Donovan monitored Starr and Jamel's performance on initiating greetings and/or cooperative activities with peers. First, she *gathered* information regarding Starr and Jamel's performance during three activities (small-group centers, large-group time in a circle, and outdoor play) on a designated day each week. She *documented* when each child either initiated a greeting or a cooperative activity. (See Table 8.5.)

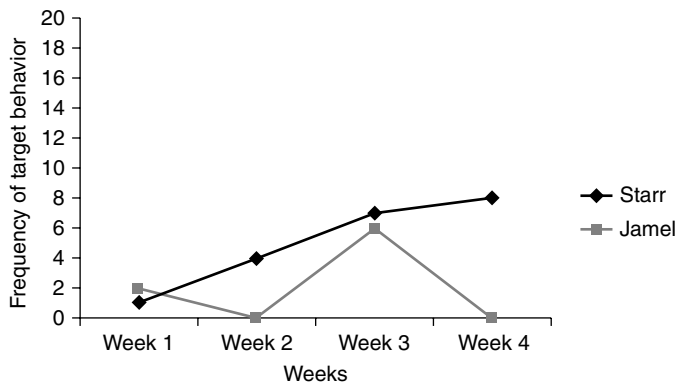
At the end of each data collection day, Mrs. Donovan *summarized* the data by totaling the number of initiations made by each child. At the end of the first month of instruction, she summarized the numerical summaries visually by plotting the totals on a graph. Figure 8.11 shows the visual summary of the data collected during the first month of instruction for both children.

Mrs. Donovan used the information on the collection form, the numerical summaries, and the visual summaries to *analyze* the data. The visual summary revealed that Starr responded quickly to the instruction. The data and trend of the data points are evidence of Starr's positive performance on the target behavior. Mrs. Donovan also saw that Starr's performance was consistent and showed little variability. When she reviewed the data collection form, she noticed that Starr had begun to initiate greetings or cooperative activities during circle time and centers; however, she did not initiate interactions during outdoor play.

**Table 8.5.** Documentation form of how often and when target children initiated greetings or initiated cooperative activities during first month of targeted instruction

| Date  | Name  | Circle time | Center time | Outdoors | Total |
|-------|-------|-------------|-------------|----------|-------|
| 11/3  | Starr | —           | +           | —        | 1     |
|       | Jamel | +           | —           | +        | 2     |
| 11/10 | Starr | ++          | ++          | —        | 4     |
|       | Jamel | —           | —           | —        | 0     |
| 11/17 | Starr | ++++        | +++         | —        | 7     |
|       | Jamel | ++          | ++          | ++       | 6     |
| 11/24 | Starr | +++         | +++++       | —        | 8     |
|       | Jamel | —           | —           | —        | 0     |

Key: + each time child initiated activity or greeting    — did not initiate during activity



**Figure 8.11.** Visual summary for Starr and Jamel during first month of Tier 2 instruction.

The visual analysis revealed that Jamel responded to instruction initially; however, his performance was inconsistent across the first several weeks, as evidenced by the large “peaks and valleys” created by the data points and the lack of a desired trend line. The documentation form for Jamel revealed that although his initiations were inconsistent, he did greet and engage in cooperative activities in all three settings observed.

Because Starr began to demonstrate the target behavior and the data revealed an upward trend during circle time and center time, Mrs. Donovan interpreted the situation as indicating that the Tier 2 instruction was positively affecting Starr’s performance, at least during two of the activities observed. Because Starr had not initiated during outdoor play, Mrs. Donovan decided to involve more peers in the peer-mediated intervention during outdoor time. Although Jamel had demonstrated the target behavior in all three settings, he did not do so with the frequency that would be expected or desired, given the level of targeted instruction he had received. Mrs. Donovan also noted that Jamel’s attendance record was regular during the first month of instruction and that he experienced no changes in routine, medication, or other factors that could have affected or explained his inconsistent performance (Ross, Roberts, & Scott, 1998). She decided to revise Jamel’s instructional plan to create more opportunities for peer-mediated intervention.

After revising her instructional efforts, Mrs. Donovan continued to *gather* information, *document* Starr and Jamel’s performance (i.e., how often and where they initiated greetings or cooperative activities), and *summarize* the data both numerically (by adding the total number of initiations) and visually (by plotting the aggregated totals on a graph). The documentation form for the second month of targeted instruction is displayed in Table 8.6. Figure 8.12 is a visual summary of the data collected for both children over the second month of targeted instruction.

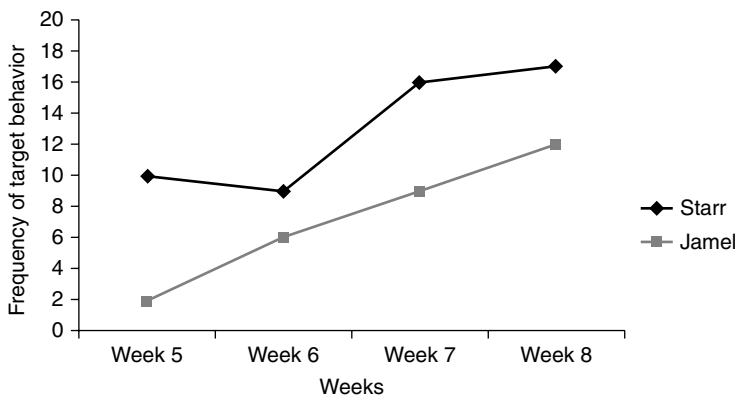


**Table 8.6.** Summary of children's performance for second month of instruction

| Date  | Name  | Circle time | Center time | Outdoors | Total |
|-------|-------|-------------|-------------|----------|-------|
| 12/1  | Starr | +++         | +++++++     |          | 10    |
|       | Jamel | +           |             | +        | 2     |
| 12/8  | Starr | ++          | ++++        | +++      | 9     |
|       | Jamel | ++          | +++         | +        | 6     |
| 12/15 | Starr | ++          | +++++++     | +++++++  | 16    |
|       | Jamel | +++         | +++         | +++      | 9     |
| 12/22 | Starr | +++         | +++++++     | +++++++  | 17    |
|       | Jamel | +++         | +++++       | ++++     | 12    |

Key: + each time child initiated activity or greeting – did not initiate during activity

After the second month of Tier 2 instruction, Mrs. Donovan *analyzed* the data and looked for patterns and trends to indicate whether the targeted instruction was affecting the children's performance. As during the first month of instruction, Starr continued to show an upward trend in performance with little variability. When Mrs. Donovan reviewed the data collection forms, she also saw that Starr was demonstrating the target behavior across all three settings. During the second month of instruction, Jamel began to show a consistent pattern of growth in his initiations across a variety of settings. The data revealed an upward and positive trend in the frequency of the target behavior, with little variability. Because both children were demonstrating the target behaviors across settings and doing so multiple times per setting, Mrs. Donovan *interpreted* the situation as indicating that the instruction was having a positive impact on both children's performance. She decided to reduce the data collection frequency to once a month in order to monitor the children's maintenance of the skill.

**Figure 8.12.** Visual summary of children's performance during second month of targeted instruction following revision of intervention plan.

## Lisa and Jamie

Mrs. Donovan *gathered* information about the performance of Lisa and Jamie by observing each child during play time for 15 minutes, 1 day per month. She *documented* what each child said by recording her utterances (i.e., each time she said a word, phrase, or sentence). She noted whether what was said was intelligible (i.e., understood by others). Mrs. Donovan summarized the information numerically by determining the percentage of utterances that were intelligible. Table 8.7 shows a numerical summary of the data that were collected during the first and second month of targeted instruction.

Mrs. Donovan *analyzed* the information by reviewing the written language records and the numerical summaries. When she reviewed the numerical summary in Table 8.7, Mrs. Donovan noticed that both children demonstrated an increase in the percentage of intelligible utterances. The written language records further showed that both children demonstrated decreased intelligibility as their phrase length increased. According to the speech and language pathologist, that pattern was to be expected, given each child's current level of performance.

Mrs. Donovan then *interpreted* the findings. Because both children were showing improved intelligibility but had not yet reached a level at which they could receive universal instruction along with typically developing peers, Mrs. Donovan decided to continue with Tier 2 instruction for both children and monitor monthly.

## TIER 3 PERFORMANCE MONITORING

As was noted in Chapter 7, because Trever had difficulty following one-step directions (evidenced by his screaming, hitting, falling to the ground, and refusing to move during certain transitions) and because such an ability is a prerequisite to participation in cooperative activities, Mrs. Donovan determined that Trever had a Tier 3 need (Mrs. Donovan *gathered* information about Trever during transitions and *documented* his performance on the data collection form) shown in Table 8.8.

In order to address Trever's need, Mrs. Donovan decided to teach Trever to follow one-step directions during transitions. She continued to *summarize* the information by totaling the number of times that Trever demonstrated the interfering behaviors during transitions, as well as the number of times he followed the direction, and plotted the totals on a

**Table 8.7.** Percentage of intelligible utterances across 2 months of Tier 2 instruction

| Name  | November (First Month of Instruction) | December (Second Month of Instruction) |
|-------|---------------------------------------|----------------------------------------|
| Lisa  | 50%                                   | 59%                                    |
| Jamie | 60%                                   | 68%                                    |

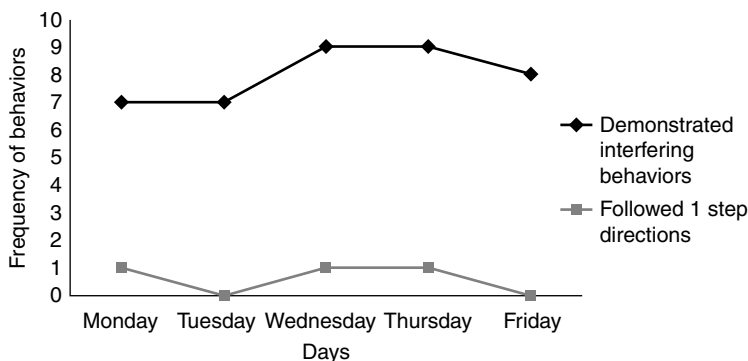
**Table 8.8.** Summary of children's performance for second month of instruction

| Daily Transitions                        | Date: 11/2                                      | Date: 11/3                                      | Date: 11/4                                          | Date: 11/5                                          | Date: 11/6                                          |
|------------------------------------------|-------------------------------------------------|-------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|
| From bus to classroom                    |                                                 |                                                 |                                                     |                                                     |                                                     |
| From cubby to opening circle             | —                                               | —                                               | —                                                   | —                                                   | —                                                   |
| From circle to centers/choice            |                                                 | —                                               | —                                                   | —                                                   |                                                     |
| Between activities during centers/choice | — — —<br>(demonstrated 3 interfering behaviors) | — — —<br>(demonstrated 3 interfering behaviors) | — — — — —<br>(demonstrated 5 interfering behaviors) | — — — — —<br>(demonstrated 4 interfering behaviors) | — — — — —<br>(demonstrated 5 interfering behaviors) |
| From choice to snack                     |                                                 |                                                 |                                                     |                                                     |                                                     |
| From snack to outdoors                   |                                                 |                                                 |                                                     |                                                     |                                                     |
| From outdoors into class                 | —                                               | —                                               | —                                                   | —                                                   | —                                                   |
| From cubby to small group                | —                                               |                                                 | —                                                   | —                                                   | —                                                   |
| From small group to movement circle      |                                                 |                                                 |                                                     |                                                     |                                                     |
| From circle to cubby                     | —                                               | —                                               |                                                     | —                                                   |                                                     |
| From cubby to bus                        | +                                               |                                                 | +                                                   | +                                                   |                                                     |
| Totals: +                                | 1                                               | 0                                               | 1                                                   | 1                                                   | 0                                                   |
| —                                        | 7                                               | 7                                               | 9                                                   | 9                                                   | 8                                                   |

Key: + followed one-step direction — demonstrated interfering behaviors: screaming, hitting, falling, refusing

graph. Figure 8.13 shows the visual summaries for the first week of Tier 3 instruction.

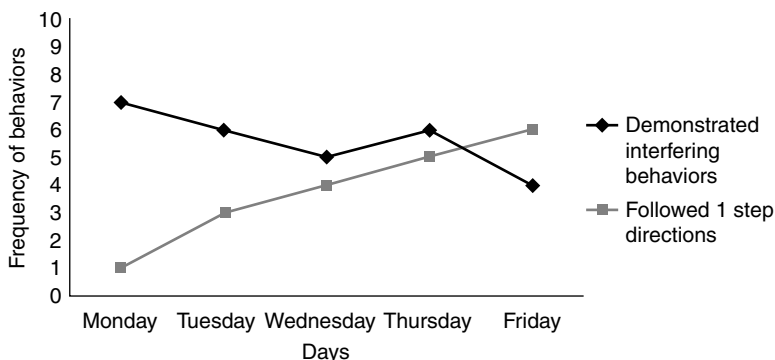
Mrs. Donovan *analyzed* the data by comparing the visual summary from the baseline with that of the first week. The summary showed her that there was little change in frequency of the measured behaviors (i.e., the lines representing the frequency of behaviors remained at the same level). Trevor's performance did not change as a result of the instruction. The data collection form showed that Trevor continued to engage in the interfering behaviors during specific transitions. When she *interpreted* the information, Mrs. Donovan determined that she needed to revise the instructional plan because Trevor's performance remained relatively unchanged. The instructional change she made was to provide more visual structure for Trevor before and during transitions. She also modified the consequences that were given to include stickers each time he followed a



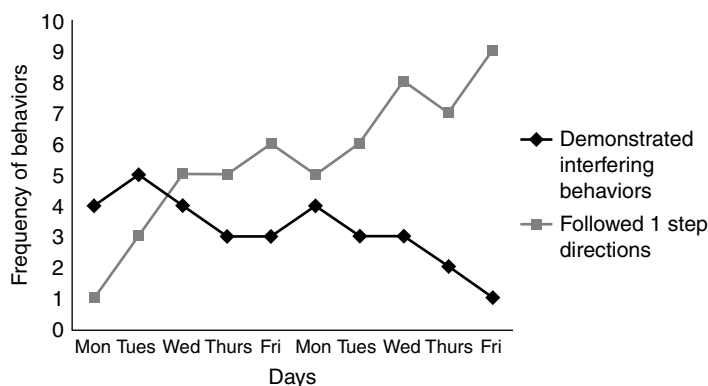
**Figure 8.13.** Frequency of behaviors during first week of Tier 3 instruction.

one-step direction during a transition. During the implementation of the revised plan, Mrs. Donovan continued to *gather*, *document*, and *summarize* Trever's performance. Figure 8.14 shows the visual summary for the second week of Tier 3 instruction.

Again, Mrs. Donovan looked for changes in the patterns and trends, which helped her to plan for Trever. During week 2, she noticed that Trever's performance began to change relatively quickly. The visual summary revealed an upward trend in following directions (meaning that he was engaging in that behavior more often) and a downward trend in the interfering behaviors (meaning that he was engaging in those behaviors less often). When she compared the visual summaries from the baseline, week one, and week two, Mrs. Donovan also saw changes in level of both behaviors. Specifically, she saw that the line representing the interfering behavior was much lower on the week 2 summary (indicating an overall lower frequency) and the line representing following directions was much higher (indicating an overall higher frequency). Furthermore, she saw that



**Figure 8.14.** Frequency of behaviors during second week of Tier 3 instruction.



**Figure 8.15.** Frequency of behaviors: Third and fourth weeks of Tier 3 instruction.

the interfering behaviors continued to occur during predictable transitions. On the basis of her *analysis*, Mrs. Donovan *interpreted* the situation as indicating that the level and type of instruction she was providing were affecting Trevor's performance in a positive way. She decided to continue with the intervention and performance monitoring as planned. Figure 8.15 depicts the frequency data over the next 2 weeks of Tier 3 instruction.

As Mrs. Donovan reviewed and *analyzed* the data, she discovered that the frequency of the interfering behaviors continued to decrease across all settings. Trevor began to predictably transition between activities, given the supports and structure Mrs. Donovan had planned. He also was able to increase the frequency with which he followed one-step directions. Because Trevor's behavior was no longer interfering with transitioning, Mrs. Donovan decided to reduce the amount of instruction that was provided to him during transitions and to monitor his performance monthly to ensure maintenance of the skill. She also decided that she would begin to teach Trevor to follow directions given by a peer, as a next step to learning to engage in cooperative activities.

