CHAPTER 3

Calling Attention to Print

The Nuts and Bolts

Now that we have provided a basic overview of young children's development of print knowledge (Chapter 1) and scientific evidence concerning what happens when adults increase children's contact with print during storybook-reading interactions (Chapter 2), we turn our attention to the nuts and bolts of the technique we refer to as *calling attention to print*. In Chapter 2 we noted that this term captures the many different behaviors that adults can use to increase children's contact with and awareness of and its meanings. Generally, adults call attention to print through a combination of verbal (e.g., questioning about print) and nonverbal (e.g., tracking the print) references. Children's increased engagement with, and attention to, print leads to substantially improved knowledge about the forms and features of print; these foundational emergent literacy skills (i.e., print knowledge) are strong predictors of later success in reading (National Early Literacy Panel, 2008). Therefore, by calling attention to print *now* when you read with young children, you are supporting their future outcomes as readers.

As discussed in Chapter 2, a number of studies on calling attention to print has been conducted over the last decade. From this body of work, we have learned a great deal regarding how best to use the technique of calling attention to print to foster children's print-knowledge development; these are the nuts and bolts of the approach, and they concern such issues as how best to sequence instruction over time (sequence of instruction) and how often to use this technique (intensity of instruction). In this chapter we discuss the following specific nuts and bolts:

1. Context of instruction
2. Scope of instruction

3. Sequence of instruction

4. Intensity of instruction

One important issue—a "bolt" so critical it holds the whole reading session together—concerns the choice of books used when calling attention to print. This is such an important topic that it receives its own chapter (Chapter 4), in which we specifically discuss not only how to select books but also how to link these selections with specific print targets. Additionally, how to scaffold children's participation in reading sessions that feature a print focus is also a highly important topic which we address in considerable depth in Chapter 5.

CONTEXT OF INSTRUCTION

Context refers to the environment in which something takes place, and with respect to calling attention to print, it refers to the shared book-reading context. The shared book-reading context is a rapidly changing, or *dynamic*, environment in which adults and children interact with one another to derive meaning from the text being shared. The adult reader, in particular, must maintain a highly active role to assure that throughout the entire length of the reading session, all children are fully engaged, enjoying, and learning from the activity; in this regard, the adult's role is particularly crucial and can be highly challenging. We use the term *intentional* to describe the adult who plays a highly active role for the purposes of facilitating children's engagement, enjoyment, and learning from the shared reading activity: The intentional reader uses a variety of techniques simultaneously to achieve these ends.

Understanding the various techniques with which adult readers create highly productive and successful reading sessions with children is necessary if we are to then integrate attention to print within the reading context. That is, if calling attention to print is to be an effective technique for increasing children's knowledge about print, then it must be situated in an enticing and engaging context in which the adult reader intentionally ensures that children are actively engaged as participants. The way in which the adult reader—for instance, the preschool teacher—organizes and facilitates the shared reading session is particularly crucial for ensuring that the context in which calling attention to print takes place maximizes children's engagement, because children who are highly engaged benefit more strongly from participating in shared reading sessions than children who are disengaged (Justice, Chow, Capellini, Flanigan, & Colton, 2003). Figure 3.1 provides an overview of seven unique aspects of the book-reading context to which adult readers must carefully attend in order to

Reader: _____ Text: _____

Observer: _____ Date: _____

1 = Item not present, inconsistently executed, or poorly executed   3 = Item present and strongly, skillfully executed

2 = Item present and adequately executed

Scale	Description	1 (Low)	2 (Mid)	3 (High)	Comments
Orientation	Introduces the book through display of the book cover, reading of title, author, and illustrator. Encourages discussion of one or more of these features. Links the book, author, or subject with children's prior knowledge.				
Physical Delivery	Posture, facial expressions, pausing, and voice changes (frequency, intensity) are used to capture and maintain children's attention.				
Word Learning	Discusses interesting words before, during, and/or after the reading of the book aloud. Uses pictures, where possible, to support the discussion.				
Language Elicitation	Asks open-ended questions (e.g., "what if," "where have you seen," "how would") to prompt discussion of book, details of plot and/or characters, or topic. Regularly pauses and encourages the children to fill in the predictable phrases. Extends and recasts children's contributions with follow-up comments and questions that maintain children's topic (topic continuations). Elicits participation of reticent children.				
Responsiveness	Is responsive to the individual needs of children and tries to involve all children equally. Is responsive to the experiences and knowledge of individual children that may contribute to the reading experience. Allows children to share their feelings and experiences and listens attentively and respectfully.				
Behavior Management	Proactively manages behavior (e.g., selects appropriate group size, sets appropriate pace, situates children in appropriate places), and little time is focused on managing behavior. Establishes "ground rules" for how children are to participate early in the session and is consistent throughout in enforcing these rules.				
Extension	Prompts children to relate what was read to events outside the book, linking the book's text and the children's experiences. Involves children in activities that extend the book (e.g., story map, retelling, role playing).				

FIGURE 3.1. Reading Quality Scale.

purposefully create high-quality reading contexts. Note that the Reading Quality Scale presented in Figure 3.1 does not explicitly address attention to print; we first want to describe broader features of a quality reading session, in which attention to print is then systematically and explicitly embedded.

Orientation

Orientation refers to techniques the adult reader uses to set the stage and prime children's engagement before any reading takes place. These include showing children the book and identifying its general topic (e.g., the first day of school), as well as key features of the cover (author, illustrator, title, cover art). Beyond this, the orientation provides an ideal context to engage in focused discussions about (1) background knowledge, (2) prior experiences with the book, (3) book predictions, and (4) story grammar. The orientation provides an ideal opportunity for elevating children's background knowledge (also called prior knowledge) about the topic, particularly if it is novel to them. For instance, if a book describes a family who harvests a field, orientation might include a discussion of the meaning of the word *harvest* and, ideally, reference to experiences children have had relevant to this concept (e.g., a prior visit to an apple farm).

If children are being read a book with which they are familiar, discussing prior experiences with and perceptions about the book is also an important aspect of the orientation. The reader might allow children to discuss what they remember about the book (e.g., something interesting about the character) or identify something specific that they particularly enjoyed about it. A survey is helpful in this regard: A highly successful orientation activity might ask children to sign their names under one of three columns, each of which identifies something specific about the book content, to signify which aspect of the content they most enjoyed.

A common routine with respect to orientation is asking children to predict what might happen in the book. Predictions can be made for both familiar and unfamiliar books. Prediction is an important orientation activity because it fosters children's inferential thinking skills, which are very important later in school when children need to read for meaning and call upon inferencing abilities to do so successfully. Adult readers can structure prediction activities used to orient children to a book by allowing each child to make a prediction and write it down on a white board or large sheet of paper; this structure is useful because it provides a written account of children's predictions to which the adult can refer during the reading of the book (with periodic checks for accuracy of children's predictions) or after the reading, when each child's prediction can be checked in succession.

Some adults may use orientation as a time to prime children's awareness of features of story grammar. Traditional elements of story grammar include the setting, characters, plot, and conclusion. The adult reader can use an activity to orient children toward one or more of these features of a book's story grammar prior to reading the book. For instance, the adult might explain to children that the story is set in a highly peculiar place and they are to pay special attention as he or she reads because they will be talking about the setting of the story after the reading is completed.

Physical Delivery

The physical delivery of a book concerns how the adult uses paralinguistic communication devices to excite and engage children as the book is read. Paralinguistic communication devices are aspects of communication that accompany and surround the actual words we use, such as posture, facial expressions, pauses, and voice changes that include modifications in pitch (frequency) and loudness (intensity). Some books seem particularly amenable to pitch and loudness modifications, such as books that feature different characters that likely vary in their voices. Adults should use these book elements as an opportunity to explore physical delivery variations. It is surprising how powerful such techniques can be when used well by readers as a means for drawing children into a reading experience and maintaining their attention throughout.

Word Learning

Reading books with children offers a significant means to foster their vocabulary growth. *Vocabulary* refers to the volume of words that children understand (receptive vocabulary) and express (expressive vocabulary), and by many accounts, early childhood is a particularly robust period in life for vocabulary acquisition. Books provide an important source of new words to which to expose young children, particularly words that are relatively low in frequency but high in utility. A lower-frequency word is one that occurs relatively rarely in spoken language (e.g., *toddler*, *knob*, *holler*), whereas a high-frequency word occurs relatively often (e.g., *boy, button*, *call*). High-utility words are words that are *useful* to mature language users—words that we must use and understand to read for meaning and engage in conversations with others and that are used in many different contexts (e.g., *fragile*, *whisper*, *reside*) (Beck, McKeown, & Kucan, 2002).

When reading books with young children, it is useful to take opportunities to explicitly explore and discuss interesting lower-frequency words that occur in books. Examples of such interesting lower-frequency words appearing in Anne

Hunter's (1998) *Possum and the Peeper* include *inconsiderate, demand, clamor, din, snarl, grumble, glorious,* and *warm.* Any one of these words is ripe for conversation, yet often adults reading books with children will simply read them and move on, providing children with no opportunity to derive the meaning of these words. Because these are words that occur relatively less often than others, it may be some time before the words are heard again, thus limiting children's opportunity to acquire their meaning and make them part of their emerging vocabularies.

When these words occur in books, adults should take a moment to pause and explore the meaning of these words with children, using a technique described as an "elaborated exposure"; that is, explicitly pointing out an interesting vocabulary word to children and discussing its meaning in child-friendly language (Beck et al., 2002; Justice, Meier, & Walpole, 2005). For instance, a teacher might elaborate on the word *inconsiderate* in this way:

> "*Inconsiderate* is an interesting word. It means that someone is rude or not very thoughtful. Someone in this book is making really loud sounds, and the animals think that is rude, or inconsiderate. Let's say the word *inconsiderate* together: *inconsiderate.*"

Because this word refers to a relatively abstract concept, it may take several exposures to its definition before children are able to describe it in their own words. The next time the teacher reads the book and pauses to discuss this word, he or she might ask children to define it in their own words.

Some adult readers may choose not to interrupt their reading of books with children to elaborate interesting words within the context of the story. This is certainly understandable. However, in such cases, opportunities to discuss interesting words should not be abandoned altogether; rather, they can occur before or after the book reading as an orientation or extension activity.

Language Elicitation

A high-quality reading session involves opportunities for children to actively participate in the dialogue that occurs. Particularly useful strategies for eliciting children's participation in dialogues include asking open-ended questions (questions that elicit multiword responses, such as, "Why are the animals angry about all the noise?"), pausing and waiting, providing opportunities for children to fill in predictable words, and extending children's contributions with comments or questions that maintain the children's topic of interest (topic continuations). Equally important is ensuring the verbal participation of children who are reti-

cent, perhaps because of their temperament (i.e., shyness), cultural background, or language abilities. As with pointing out interesting words, some adult readers may feel uncomfortable dialoguing with children during the actual reading of the text; instead, they prefer to hold conversations before or after reading so as not to interrupt the flow of the story. Such a preference is certainly acceptable, as long as the adult ensures that children do not miss the opportunity to discuss the story in extended dialogues.

Responsiveness

A significant characteristic of high-quality reading sessions is that of adult responsiveness: The adult uses specific behaviors to show that he or she is linguistically and emotionally attuned to the individual interests and needs of the children. Adults are linguistically responsive when they repeat and extend children's communicative contributions, as in:

CHILD: That monkey in the jungle . . .

ADULT READER: Yes, the monkey is hiding in the jungle.

The adult response is appropriately characterized as linguistically responsive because he or she (1) *recasts* the child's utterance (i.e., repeating a child utterance and embellishing it with additional grammatical detail) *and* (2) *maintains* the child's topic. Linguistic responsiveness is an important means for facilitating children's language growth and encouraging their conversational participation (e.g., Landry, Miller-Loncar, Smith, & Swank, 1997); the previous item on the Reading Quality Scale (Language Elicitation) captures adult readers' use of recasts and topic-maintaining utterances.

In addition to linguistic responsiveness, an important element of quality book-reading sessions is emotional attunement to individual children—attunement to their interests, their approaches to learning, and their ability to stay engaged, for instance. This characteristic is sometimes referred to as sensitivity. The adult reader who is sensitive (or emotionally responsive) recognizes when children need help or special attention and expresses interest when children share their ideas and interests (Pianta, La Paro, & Hamre, 2004).

Behavior Management

A well-managed book-reading session is a productive one, with as little time as possible focused on managing children's behaviors, particularly those that disrupt the reading experience. Ideally, any behavior management that needs

to take place can be proactive in manner through such actions as (1) selecting the appropriate group size, (2) setting the appropriate pace, and (3) situating children in appropriate places. For instance, a child who is extremely fidgety and has a tendency to poke nearby children may need to sit right in front of an adult reader. An important characteristic of a well-managed book-reading session also involves preset expectations; that is, the adult reader establishes his or her expectations for child behavior before the reading session and then maintains these expectations throughout. As an example, a preschool teacher may want to explain to children that because the group of children listening to a book is so large, they will need to raise their hand (rather than call out) in order to answer questions. It is important that this rule be enforced equally for all children and that the teacher use some sort of gesture (e.g., holding up a hand or a picture of the desired behavior) to let children know when they haven't followed the rule rather than stopping the session repeatedly to reprimand children.

Extensions

Extensions are follow-up activities that lengthen the book-reading experience for children by building on specific themes or concepts. Extensions can immediately follow a book-reading experience (e.g., digging a garden after reading a book about a garden), but they do not need to. For instance, a teacher might be on a field trip to a play with preschoolers and remind the children that they once read the book on which the play is based; perhaps prior to the start of the play, the teacher could help children remember the major story grammar elements of the book they shared previously. Extensions can be a particularly important way for children to repeatedly experience new vocabulary words they learned within the context of a book. For instance, an extension activity might involve children producing kid-friendly definitions for 10 interesting words heard within a storybook (Biemiller & Boote, 2006).

SCOPE OF INSTRUCTION

Calling attention to print involves using books as a means to foster not only children's interest in print as an object in the world around them, but also to systematically teach children about print. In the preceding sections we discussed key features of high-quality shared reading sessions, such as language elicitation and adult responsiveness, that must be in place for children to appreciate and learn from reading experiences. Once these are in place, adults can then draw upon the enticing and engaging experience of repeatedly reading books with children to systematically develop their knowledge about print.

In Chapter 1 we described four dimensions of print knowledge that capture children's achievements over the course of early childhood:

1. Book and print organization.
2. Print meaning.
3. Letters.
4. Words.

These dimensions can be used to represent a fourfold scope of print-knowledge instruction that, in turn, can be systematically addressed by calling attention to print during shared reading interactions. Here, we provide a brief review of the definitions of these four dimensions of print knowledge and the major accomplishments within each, which in turn can serve as specific *targets* or *objectives* to be addressed by calling attention to print.

Book and Print Organization

The five objectives for print instruction include:

1. *Title of book*. Knowledge of where the title is located in a book and what the function of the title is.
2. *Author of book*. Knowledge of what an author is and where the name of the author is located in a book.
3. *Page order*. Knowledge of how books are read from front to back and that pages are read from left to right.
4. *Page organization*. Knowledge of how a page with multiple lines of text is read from top to bottom.
5. *Print direction*. Knowledge of how print in English moves from left to right.

Print Meaning

The three objectives representative of this dimension of print knowledge include:

1. *Function of print*. Knowledge that the function of print generally is to convey meaning.
2. *Environmental print*. Knowledge about the specific and varying functions served by print within the environment.

3. *Concept of reading.* Knowledge that reading is an act in which persons engage and that reading serves various purposes (e.g., learning new things, enjoyment).

Letters

Three objectives represented by this dimension include:

1. *Upper- and lower-case forms.* Knowledge that letters come in two analogous forms and that there are rules governing when the two forms are used.
2. *Letter names.* Knowledge of the names and corresponding written symbols for the 26 individual letters.
3. *Concept of letter.* Knowledge about the functions of letters.

Words

The four objectives specific to this domain include:

1. *Concept of word in print.* Knowledge that written words, as a distinct unit of print, correspond spoken words.
2. *Short words and long words.* Knowledge that written words are a distinct unit of print and are composed of letters.
3. *Letters and words.* Knowledge that written words are distinct from the other salient form of print (letters) and that words have meaning.
4. *Word identification.* Knowledge of some words in print, including one's own name and other high-frequency or high-function words.

SEQUENCE OF INSTRUCTION

In the preceding sections we described a fourfold scope of instruction along with 15 objectives that, if addressed in a *systematic* plan over time by calling attention to print during shared reading interactions, will result in substantial increases in children's knowledge about print (Justice et al., 2009). A systematic plan involves organizing and delivering instruction so that it follows an established pattern through which objectives are addressed. Systematic instruction requires sequentially organizing content so that what children learn accumulates in an orderly fashion over time. Instruction that follows an organized sequence provides educators with the opportunity to review and build upon previously

learned concepts rather than proceeding haphazardly. The notion of systematic-ness has received considerable interest in the last decade as an important aspect of literacy instruction, as some evidence has suggested that *systematic* instruction in early reading instruction is an important mechanism for promoting children's growth in literacy programs (e.g., Foorman, Fletcher, Francis, Schatschneider, & Mehta, 1998).

There are numerous ways to sequence print-knowledge instruction, or any type of literacy instruction, for that matter, so that it proceeds in a systematic manner over time. The concept of systematic or sequenced instruction does not necessarily mean that one needs to follow a developmental course of instruction in which teaching proceeds linearly (and vertically) from easier to more difficult concepts. Rather, the concept need only imply that a *sequence* is being pursued, thereby allowing children's knowledge to accumulate in a systematic and sus-tained manner over time. Eventually, the logic of the system of rules that gov-erns print forms and functions will be incorporated by children (Adams, 2002).

Generally, systematic instruction follows one of three sequences to ensure that a specific scope of instruction and the objectives contained therein are cov-ered (Fey, 1986):

1. Vertical instruction.
2. Horizontal instruction.
3. Cyclical instruction.

Figure 3.2 provides an overview of what vertical instruction typically looks like. Here, we have organized the fourfold scope of print knowledge and its 15 objectives so that all objectives are addressed systematically over a 30-week period of instruction. As can be seen, with vertically sequenced instruction, a set of objectives is arranged in a linear sequence, and instruction targeting those objectives proceeds vertically over time (from the first objective to the last objec-tive). Typically, only one or two objectives are addressed at a given point in time; the intent is for the child to achieve mastery on a given objective before the next objective in a sequence is tackled. For the purposes of illustration, we developed a vertical progression of print-knowledge instruction so that we first address objectives within two dimensions of the scope (print and book organization, print meaning) early in the year and then build upon these with the other two dimensions within the scope (letters, words) (see Figure 3.2). If one adhered strictly to a vertical progression of instruction, one would not want to move from one objective (e.g., knowledge of title of book) to the next in a sequence (e.g., knowledge of author) until mastery of the first was demonstrated. Consistent

Instructional weeks	Book and print organization	Print meaning
Week 1	Title of book	Function of print
	Author of book	Environmental print
	Page order	
	Page organization	Concept of reading
	Print direction	
	Letters	**Words**
	Upper- and lower-case forms	Concept of word in print
		Short words and long words
	Letter names	Letters and words
		Word identification
Week 30	Concept of letter	Concept of word in print

FIGURE 3.2. Scope of print-knowledge instruction: Vertical sequence.

with assumptions inherent in vertical approaches to instruction, this sequence reflects the assumption that children must first develop basic knowledge about print (e.g., knowledge that the function of print generally is to convey meaning) upon which they will build more sophisticated understandings (e.g., knowledge that letters come in two analogous forms).

Ordering instruction to address a vertical sequencing of skills is somewhat typical in early literacy instruction. For instance, the popular classroom curriculum *Phonemic Awareness in Young Children* (Adams, Foorman, Lundberg, & Beeler, 1998) follows a vertical progression of skill development, in which objectives within a sevenfold scope of instruction are vertically organized along a linear pathway of phonological awareness development, beginning with objectives focused on developing general listening skills and culminating with objectives focused on recognizing relationships between letters and sounds. Instruction that follows a vertical progression of skill development can be effective in fostering children's skill acquisition in a variety of different developmental domains (e.g., Schuele et al., 2008). One of the major criticisms of vertical approaches is that they tend to deconstruct complex areas of development into a linear progression of isolated skills, yet often development does not proceed along linear and vertically arranged pathways (e.g., Anthony, Lonigan, Driscoll, Phillips, & Burgess, 2003). For instance, there is little evidence that children must have basic foundational knowledge about print functions before they can acquire more sophisticated understanding about the functions of letters; rather, some recent findings from developmental science suggest that development may not proceed in such a hierarchical manner (see Anthony et al., 2003). An additional

criticism concerns the rate of instruction, particularly whether working on one or two objectives at a time until mastery is reached is the most efficient means to foster children's growth.

Figure 3.3 provides an alternative to vertical approaches of organizing instruction: a horizontal approach for sequencing objectives (Fey, 1986). Note that the primary difference between the horizontal and the vertical approaches is that the former presents the option of addressing multiple areas of development simultaneously, which, in our case, meant the entire fourfold scope of print-knowledge instruction: book and print organization, print meaning, letters, and words. Using this approach, children develop knowledge across four distinct (albeit interrelated) dimensions of print knowledge simultaneously. In Week 1, for instance, children would be taught beginning concepts about (1) the way in which books are organized (e.g., location of title and author), (2) the various functions served by print, (3) the difference between upper- and lower-case forms, and (4) the concept of word in print. The benefit of horizontal approaches is that they broaden what is taught from one or two focal areas to three or more; consequently, one is able to teach more at a single point in time and, presumably, be more efficient. Horizontal approaches are similar to vertical approaches in their objective that children achieve mastery of a specific unit of knowledge before tackling the next in a sequence.

Yet another option for organizing systematic instruction, aside from vertical and horizontal approaches, is a cyclical approach. This approach to instruction

Instructional weeks	Scope of Instruction			
	Book and print organization	Print meaning	Letters	Words
Week 1	Title of book	Function of print	Upper- and lower-case forms	Concept of word in print
	Author of book	Environmental print		Short words and long words
	Page order		Letter names	Letters and words
	Page organization	Concept of reading		Word identification
				Concept of word in print
Week 30	Print direction		Concept of letter	

FIGURE 3.3. Scope of print-knowledge instruction: Horizontal sequence.

largely emerged from treatment of children with significant speech–sound disorders (Hodson, 1989), which traditionally had relied upon vertical and horizontal approaches to ordering instruction focused on remediating problematic sounds. Similar to the vertical and horizontal approaches to sequencing instruction, a cyclical approach addresses all print-knowledge objectives in a systematic manner. The primary difference is that in the cyclical approach, one does not wait for mastery of a certain concept or objective. Rather, one moves on to the next objective in a sequence, but then continues to cycle back through objectives so that they are addressed repeatedly over time. Figure 3.4 provides an example of how a cyclical approach might be used to address the 15 print-knowledge objectives.

The benefit to a cyclical approach is that it exposes children to important objectives even if they have not mastered foundational knowledge or skills; this may be particularly relevant to children who are developing foundational

Instructional weeks	Scope of Instruction			
	Book and print organization	Print meaning	Letters	Words
Week 1	Print direction	Environmental print	Upper- and lower-case forms	Concept of word in print
	Author of book			
	Page organization	Concept of reading	Concept of letter	Word identification
	Title of book	Function of print	Letter names	Letters and words
	Page organization	Environmental print	Concept of letter	Word identification
	Author of book			
	Page order	Function of print	Upper- and lower-case forms	Letters and words
	Title of book	Concept of reading	Concept of letter	Short words and long words
	Page organization			
	Page order	Environmental print	Letter names	Word identification
	Print direction	Concept of reading	Upper- and lower-case forms	Letters and words
Week 30	Page order			

FIGURE 3.4. Scope of print-knowledge instruction: Cyclical sequence.

knowledge or skills quite slowly, but they may need to develop a large body of knowledge quite rapidly. For instance, consider the circumstances of 5-year-old Rashaun who has a significant disorder of language and is developing knowledge about print quite slowly. Because Rashaun will enter first grade and begin formal reading instruction in less than 1 year, it may be beneficial to expose him to all of our print-knowledge objectives in as short as possible a time. In addition, a cyclical approach may more readily approximate development than vertical and horizontal approaches, in that some evidence suggests that children's language and literacy development proceeds in "fits and starts" (e.g., speeds up and slows down) rather than in a clear linear trajectory (Pence & Justice, 2007).

In our work on calling attention to print, we have largely adhered to using a cyclical pattern in which print objectives are recycled over and over during a period of instruction. Figure 3.5 presents one example of our approach to sequencing objectives in a cyclical sequence of instruction that addresses 15 print-knowledge objectives over a 30-week period of instruction (which approximates an academic year in many preschool settings, giving or taking a few weeks of holiday breaks). These objectives can be systematically addressed in weekly reading routines during which teachers or other adults (literacy coaches, parents, speech–language pathologists) call attention to print.

In a recent study (Justice et al., 2009), preschool teachers addressed these objectives four times per week in large-group classroom-based reading sessions, and we compared growth in print knowledge for children in their classrooms compared to children in classrooms in which teachers used the same books along the same reading schedule, but did not systematically address any of the print objectives. We found that children whose teachers used this cyclical approach to organizing print-knowledge instruction made significantly greater gains on three measures of print knowledge (alphabet knowledge, print concepts knowledge, and name writing skill) compared to children in the comparison classrooms.

INTENSITY OF INSTRUCTION

Intensity refers to how often something takes place. With respect to instruction, intensity often refers to how often sessions occur (e.g., twice per week vs. four times per week), but it also can refer to how often one teaches something within a given session. To differentiate between the two uses of the term, we use *intensity* to refer to how often one reads books to children (during which the adult calls attention to print to address a scope and sequence of instruction) and the term *teaching episode* to refer to how often one teaches something within a given session.

Week	Print-knowledge objectives	
1	Environmental print	Concept of reading
2	Print direction	Concept of word in print
3	Author of book	Function of print
4	Upper- and lower-case forms	Page organization
5	Title of book	Word identification
6	Concept of letter	Page organization
7	Page order	Letter names
8	Word identification	Concept of letter
9	Author of book	Letters and words
10	Short words and long words	Function of print
11	Concept of letter	Environmental print
12	Upper- and lower-case forms	Page order
13	Title of book	Function of print
14	Page organization	Short words and long words
15	Letter names	Concept of reading
16	Concept of letter	Page order
17	Letters and words	Letter names
18	Upper- and lower-case forms	Concept of word in print
19	Short words and long words	Print direction
20	Page organization	Concept of reading
21	Word identification	Print direction
22	Title of book	Upper- and lower-case forms
23	Environmental print	Page order
24	Concept of print in word	Print direction
25	Letter names	Concept of reading
26	Letters and words	Function of print
27	Title of book	Word identification
28	Author of book	Environmental print
29	Short words and long words	Author of book
30	Concept of word in print	Letters and words

FIGURE 3.5. Cyclical approach to systematically addressing instructional objectives.

Generally, in our research on calling attention to print, we have found an intensity of about three to four reading sessions per week to be sufficient for accelerating children's knowledge about print (Justice & Ezell, 2000, 2002). Moreover, within each of these sessions, we generally recommend that adults embed about four *total* teaching episodes, or about one or two per objective being addressed, as we have also found that this is sufficient for significantly increasing children's knowledge about print in relatively short periods of time (e.g., Justice & Ezell, 2002; Justice et al., 2009). Offering any more attention to print than this within a book reading session might run the risk of detracting children's interest from other parts of a book that also warrant their attention.

Figure 3.6 shows the cumulative amount of attention each objective addressed within Week 1 (following the sequence of instruction presented in Figure 3.5) would receive if we adhered to this suggestion regarding overall intensity and number of teaching episodes. Specifically, within 1 week of instruction featuring four reading sessions (occurring on four different days), which we assume last about 10–15 minutes per session, the two objectives (i.e., environmental print, concept of reading) addressed during the week would each be discussed between four and eight times. The observation sheet presented in Figure 3.7 offers one tool for examining the number of teaching episodes embedded within a reading session. The tool can be used to provide a general metric of one's attention to the variety of print-knowledge objectives that can be addressed when reading with children, or it can be used as a tool for monitoring one's fidelity to the objectives as organized within a scope and sequence of instruction (see Figure 3.5).

As evidence to the point that we need not provide any more attention to print concepts to accelerate children's learning, Figure 3.8 provides a comparison of alphabet knowledge growth over a 2-month period for 15 children who experienced three references to letters within thrice-weekly small-group reading

Week	Day	Book title	Objectives	Teaching episodes
1	1	*My First Day of School*	Environmental print Concept of reading	1–2 1–2
	2	*My First Day of School*	Environmental print Concept of reading	1–2 1–2
	3	*My First Day of School*	Environmental print Concept of reading	1–2 1–2
	4	*My First Day of School*	Environmental print Concept of reading	1–2 1–2

FIGURE 3.6. Intensity and instructional episodes in 1 week of calling attention to print.

Reader: _____ Text: _____

Observer: _____ Date: _____

Too little = Topics/targets not addressed, opportunities missed
Just right = Topics/targets addressed at just the right amount
Too much = Topics/targets addressed at level that seemed too high, seemed to detract from session

Scale	Description	Too little	Just right	Too much	Comments
Book and Print Organization	Title of book				
	Author of book				
	Page order				
	Page organization				
	Print direction				
Print Meaning	Function of print				
	Environmental print				
	Concept of reading				
Letters	Upper- and lower-case forms				
	Letter names				
	Concept of letter				
Words	Concept of words in print				
	Short words and long words				
	Letters and words				
	Word identification				

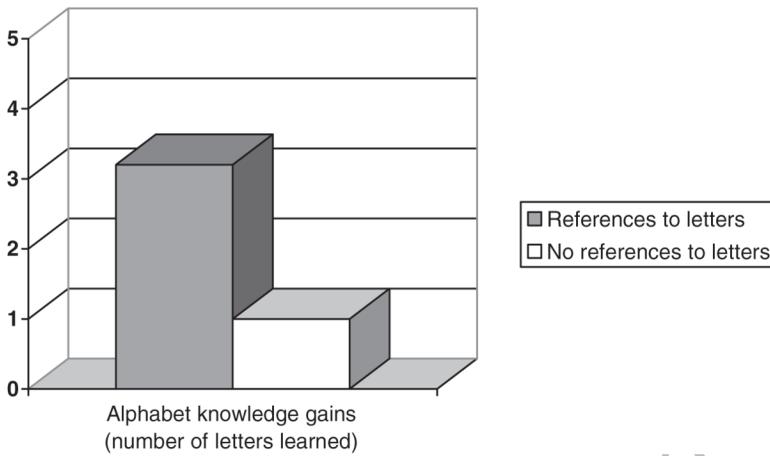**FIGURE 3.7.** Calling Attention to Print Observation.

FIGURE 3.8. Alphabet knowledge gains for preschool-age children with three references to letters embedded into thrice-weekly reading sessions over a 2-month period. Adapted from Justice and Ezell (2002). Copyright 2002 by the American Speech–Language–Hearing Association. Adapted by permission.

sessions, as compared to 15 children who were read the same books on the same schedule, but without these teaching episodes embedded into their reading sessions. As the data in this figure show, calling attention to print need not dominate reading interactions to propel children's learning forward. We emphasize that one's goal is to elevate print status so that it be an important part of the book in the eye of the child, but that it need not dominate. Other features of the book, including illustrations, concepts, and characters, are worthy of conversation as well.