

Beginning Handwriting, Spelling, and Composition Instruction

by Suzanne Carreker

Julia is a gregarious third grader who delights in participating in class discussions. She is the first to raise her hand to answer questions or volunteer to give an oral presentation to her classmates. From casual observation, Julia seems to be a bright child with deep knowledge and exemplary language skills. However, Julia's written assignments present a conundrum. Her written work is virtually illegible. The parts that can be deciphered are teeming with spelling errors and lack cohesion. Writing a one-page book report takes her hours to complete. As Julia says, "I would rather scrub the kitchen floor 10 times with my toothbrush than write one sentence!"

It is easy to underestimate how essential foundational skills are to master. Foundational skills seem so mundane, so tedious. Yet, without handwriting, spelling, and sentence construction, it is difficult to become an accomplished writer. An important idea about foundational skills, which are also known as low-level or transcription skills, is that there is research to support the necessity of these skills. A second important idea to remember is that these skills require small investments of instructional time that pay big dividends. A third important idea is that students do not have to master these skills before writing sentences and paragraphs. Explicit instruction of foundational skills and authentic writing experiences occur simultaneously.

This chapter is divided into four sections: three sections for the foundational skills and an assignment section, where you will apply and extend what you have learned in the chapter.

Objectives: After studying this chapter, you will be able to do the following:

1. Understand the importance of instruction in handwriting, spelling, and sentence construction.
2. Delineate the research base for handwriting, spelling, and sentence construction.
3. Explain how to assess student needs and progress in each skill.
4. Describe activities that promote each of these skills.
5. Explain how to incorporate foundational written composition skills in your lesson planning.
6. Be prepared to teach these skills to students.

HANDWRITING

Why Is Handwriting Important? What Does Research Say?

Handwriting instruction teaches students how to form letters correctly, using a style such as manuscript or cursive, and promotes fluent writing. Handwriting instruction may not have been part of your educational experience. More and more, handwriting instruction has been squeezed out of the instructional day because it is not directly part of the accountability system.

Research has demonstrated that handwriting does contribute to achievement in written composition.¹ For example, Virginia Berninger found that handwriting fluency strongly predicts the quality of written composition from first to sixth grade. Steven Graham and colleagues suggested that students with good handwriting tend to get better grades.² Deborah McCutchen proposed a capacity theory of writing: that is, if handwriting is automatic, then students have more cognitive resources to attend to ideas, organization, and spelling.³ Therefore, students produce higher-quality compositions when handwriting is automatic and fluent. In short, fluent handwriting positively impacts written composition.

What Should Students Know and Be Able to Do at Specific Grade Levels?

Automaticity in handwriting is facilitated by understanding how letters are formed.⁴ Pre-K and early kindergarten students can sort printed letters by how the letters are formed: with all straight lines, with all curved lines, with straight and curved lines. For example, the letters **A**, **M**, and **T** are formed from all straight lines; the letters **C** and **O** are formed with all curved lines; and the letters **B**, **P**, and **R** are formed with straight and curved lines.

Although there is no consensus about which style of writing is best,⁵ manuscript handwriting is usually introduced to students in kindergarten through first or second grade because manuscript letters are similar to letters students see in print. The Common Core State Standards⁶ recommend that, in kindergarten, students should know how to form many upper- and lowercase letters. In first grade, students should know how to form all upper- and lowercase letters. Beyond first grade, the standards do not mention handwriting. Your state or school district may have more detailed expectations for different age or grade levels.

A helpful way to teach beginning writers is to use continuous manuscript writing.⁷ The idea of continuous manuscript is that while a letter is being written, lines are retraced, and the pencil is picked up as infrequently as possible. Contrast these two descriptions for letter *d*:

1. Continuous manuscript description: "around, up, down."
2. Traditional manuscript description: "around, pick up your pencil, and down."

The first description does not require the student to pick up his or her pencil. In the second description, students must pick up their pencils and then move down, but do students know where to place their pencils after they have picked them up?

Table 6.1 presents stroke descriptions for letter formations using continuous manuscript. For the most part, there is one word for each stroke needed to form a particular letter.

Table 6.1. Continuous manuscript stroke descriptions

a	around, up, down	n	down, hump
b	down, up, around	o	around, close
c	around, stop	p	down, up, around
d	around, up, down	q	around, down
e	across, around, stop	r	down, up, over
f	curve, down, cross	s	curve, slant, curve
g	around, down, hook	t	down, cross
h	down, hump	u	down, curve up, down
i	down, dot	v	slant down, up
j	down, hook, dot	w	slant down, up, slant down, up
k	down, slant in, slant out	x	slant right, slant left
l	down	y	slant right, slant left
m	down, hump, hump	z	across, slant, across

From Carreker, S. (1992). *Reading readiness*. Bellaire, TX: Neuhaus Education Center; adapted by permission.

Table 6.2. Lowercase cursive stroke descriptions

a	under, over, stop, back around, up, down, release
c	under, over, stop, back around, release
d	under, over, stop, back around, up, down, release
g	under, over, stop, back around, up, down, loop left, release
o	under, over, stop, back around, loop, bridge
q	under, over, stop, back around, up, down, loop right, release
i	swing up, down, release. Dot
j	swing up, down, loop left, release. Dot
p	swing up, down, loop left, around, release;
r	swing up, down, across, down, release
s	swing up, around, release
t	swing up, down, release. Cross
u	swing up, down, up, down, release
w	swing up, down, up, down, up, bridge
m	push up, over, down, up, over, down, up, over, down, release
n	push up over, down, up, over, down, release
v	push up, over, down, up, bridge
x	push up, over, slant down, release. Cross
y	push up over, down, up, down, loop left, release
z	push up, over, in, curve down, loop left, release
b	curve way up, loop left, down, curve up, bridge
e	curve up, loop left, down, release
f	curve way up, loop left, down, loop right, release
h	curve way up, loop left, down, up, over, down, release
k	curve way up, loop left, down, up, over, close, slant down, release
l	curve way up, loop left, down, release

From Carreker, S. (1998). *Basic language skills (Books 1-3)*. Bellaire, TX: Neuhaus Education Center; adapted by permission.

Continuous manuscript is closer in its flow to cursive handwriting. Table 6.2 presents stroke descriptions for letters using cursive writing, which is usually introduced in third grade or perhaps in second grade. When you compare the two sets of stroke descriptions, you will notice similarity of the descriptions. For the most part, the predominant differences are the approach and release strokes that are part of the cursive stroke descriptions. Take, for example, the descriptions of continuous manuscript and cursive strokes for letter *d*:

1. Continuous manuscript description: "around, up, down."
2. Cursive description: "under over, around, up, down, release."

Although there may be advantages to different styles of writing and you may have a preference for one style or another, students ultimately will develop their own style.⁸ If one particular style of script is not comfortable or appropriate for a student, the student should use what works best for him or her.

How Do You Assess Handwriting?

Examining the students' writing, either manuscript or cursive, is a good way to assess handwriting. As you look at a student's writing sample, ask yourself these questions: 1) is the handwriting legible, 2) do letters seem to be formed correctly, 3) are the letters proportional in size to one another, 4) did the student seem to apply appropriate pressure on his or her pencil, and 5) is the writing well organized on the paper? If the answer to any of these questions is "no," the student may have handwriting difficulties.

For a student who demonstrates difficulties with handwriting, you will want to do more assessment by observing how the student writes letters that you dictate. First, it is prudent to observe the student's pencil grip and writing posture.⁹ With a correct grip, the pencil is held with the thumb and the index finger. The pencil may rest on the first joint of the middle finger or the pencil may be perpendicular to the writing surface. The grip is relaxed, not tense or tight. As to writing posture, the student is balanced in his or her seat, with both feet on the floor. The student's paper is slanted, so that the student's writing hand and arm are parallel to the side edges of the paper. The nonwriting hand holds the top of the paper and is parallel to the top edge of the paper. Inappropriate grip or posture, either of which could be a source of handwriting difficulty, should be corrected.

After a check of the student's pencil grip and posture, you will want to observe the student's automaticity and correctness in forming letters. Dictate five or six letters, one at a time. Observe how quickly the student is able to produce the letter. Does he or she stop and think about the letter or is the student able to reproduce the letter instantly? Observe how the student forms the letter. Does the student form the letter in a reasonable and efficient manner, or does he or she write the letter in a haphazard or bizarre manner? Does the student's letter look like it is supposed to look? If the student is forming letters appropriately, you will want to have him or her copy several sentences and then freely write a sentence or two. The goal here is to attain a sense of the student's writing rate. How automatic and fluid is the student's writing? Interestingly, girls are faster than boys in handwriting.¹⁰ First-grade girls average 21 letters per minute versus 17 letters for first-grade boys. By sixth grade, girls average 91 letters per minute, and boys average 78 letters per minute.

How Does Assessment Inform Instruction?

Explicit handwriting instruction should be integrated with opportunities to engage students in authentic writing activities.¹¹ Your observations will guide your explicit handwriting instruction. For example, if a student can produce a letter correctly but not automatically, the student needs regular review and practice of letters. Activities that provide this review and practice include the following:

- **Instant writing**—Students are given a pencil and a piece of paper that is appropriate to their writing needs. For example, paper without lines for younger students or with lines for older students. The teacher dictates a letter. Students repeat the letter and write it. In fairly quick succession, the teacher dictates other letters one at a time. Students repeat each letter and write.
- **Memory writing**—Students are given a pencil and a piece of paper, appropriate to their needs. The teacher dictates a sequence of 2–5 letters. Students repeat the letters in sequence several times. The teacher gives a nonverbal signal, and students write the sequence of letters, naming the letters as they write.

The student who has difficulty forming a letter needs instruction that is focused on the formation of the letter. An activity that is appropriate for this student is presented in Figure 6.1. The student is given a practice page such as the one in this figure. With this activity, you can see the “I do, we do, and you do” feature of effective instruction:

1. On the board, the teacher writes a large letter. The teacher models how to form the letter (*n*, down, hump).
2. The student and teacher write the letter in the air (sky write) as together the student and teacher name the letter (*n*) and describe the letter strokes (down, hump).
3. Using the practice page, the student names the letter (*n*) and traces the letter three times with his or her finger while the teacher and student describe the letter strokes (down, hump).
4. The student names the letter (*n*) and traces the letter three times with his or her pencil while the teacher and student describe the letter strokes (down, hump).

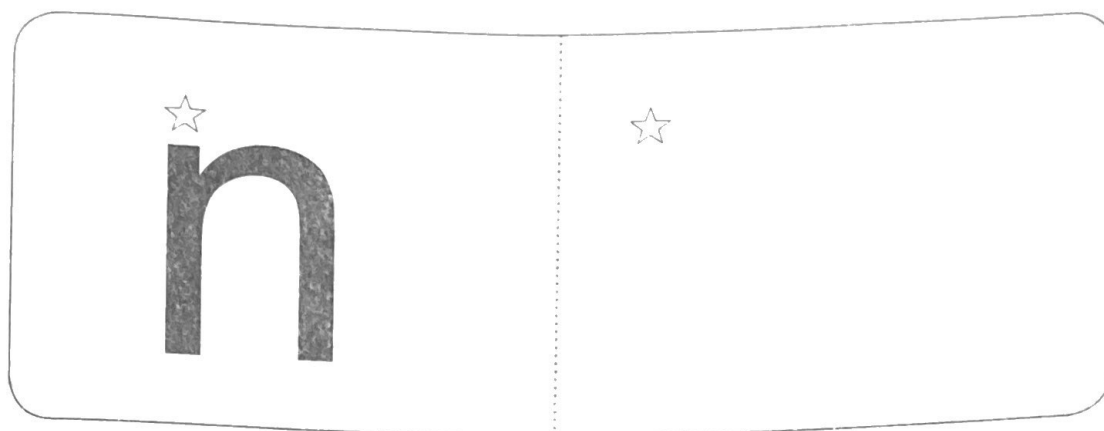


Figure 6.1. A trace-and-copy handwriting practice page

5. The student puts his or her finger on the star on the right side of the paper.
6. The student names the letter (*n*) and plans the letter with his or her finger three times while the student describes the letter stroke (down, hump).
7. The student picks up his or her pencil. The student covers the model letter or folds the paper so the model letter is not in view. The student names the letter and writes the letter, describing the letter strokes to himself or herself.
8. The student compares his or her written letter to the model and assesses how well he or she has written the letter.
9. The student turns the paper over and writes the letter two more times.

The addition of arrows or numbers to a model like the one in Figure 6.1 to indicate the actions or sequences in forming a letter can further aid the student in writing the letter correctly.

How to Teach?

Beverly Wolf suggested daily instruction of 20 to 30 minutes while students are learning how to form letters in any script.¹² When students know how to form the letters, daily practices of 5 to 10 minutes will help students improve and maintain their automaticity and fluency. The number of letters that is introduced or practiced will be dictated by your students' needs. In addition to practicing letters, students can practice writing phrases and sentences.

A systematic order of letter introductions can be determined by thinking about how letters are formed and by grouping letters that are similar in formation together. For example, look back at Table 6.1. The manuscript letters *a*, *c*, *g*, *o*, and *q* begin with the stroke "around." You might want to teach those letters in a sequence. The cursive letters presented in Table 6.1 are grouped by approach strokes. For example, the cursive letters *a*, *c*, *d*, *g*, *o*, and *q* share the same "under, over" approach stroke. Uppercase letters should be included in the order of presentation and can be grouped according to starting point.

As you introduce a letter, it is helpful for you to model how the letter is formed, provide a model for students to trace and copy, and provide direction for forming the letter (arrows, number sequences, and/or stroke descriptions). The practice page presented in Figure 6.3 can be adapted for students of all ages and abilities. For example, instead of only one letter on unlined paper, the page could have lines and several letters for practice.

In sum, handwriting is important and does not require much instructional time. When handwriting is automatic and fluent, students have one less thing to think about as they write. Student needs will determine the focus and intensity of your instruction.

SPELLING

Why Is Spelling Important? What Does Research Say?

Spelling, the translation of spoken words into their written counterparts, is the second foundational skill of written composition. If spelling was part of your educational experience, it was probably pretty boring. No doubt you memorized lists of words for the weekly spelling tests. Perhaps you were, like many students, a “Friday speller.” You spelled words correctly on a Friday test, but you soon forgot them after the test was over. If your spelling experience in school was just rote memorization, you learned how to spell a prescribed list of words for a test, but you did not experience the full benefit of learning how to spell any word.

Spelling develops in stages or phases. Initially, very young children imitate writing with scribbles or random strings of letters.¹³ Children as young as age 4 may begin to demonstrate their rudimentary understandings of how sounds in spoken words can be translated into print. Children at this stage may use only the prominent consonant sounds, as in KT for *cat* or RN for *run*.¹⁴ More precocious children may represent all the sounds phonetically, such as KAM for *came*, BEDR for *better*, or YUZ for *use*.¹⁵ As children learn more about letters and sounds and read more, phonetic spellings give way to a mixture of phonetic and conventional spellings as in ENUGHF for *enough* and WADTER for *water*.¹⁶ Repeated exposures to words and increased knowledge of spelling patterns eventually help children form correct spellings of words and hold those spellings in memory.

Convergent research affirms that spelling is not merely a rote skill.¹⁷ Spelling is a complex linguistic skill that involves understanding of phonology (sounds), orthography (spelling patterns), morphology (word parts), semantics (meaning), and syntax (usage). Spelling is a skill that requires explicit instruction, not just memorization. Students’ spelling attempts can provide you with insights as to how well students are learning and internalizing information about the language. When spelling unfamiliar words, students apply their awareness of sounds (phonemic awareness) and knowledge of letter patterns. In their trials of spelling unfamiliar words, students reinforce and enhance their reading skills.¹⁸ Just as is true of fluent handwriting, efficient spelling frees students’ attention to focus on their ideas and goals as they write.¹⁹ Lastly, whether it is accurate or fair, spelling is often seen as a reflection of a person’s ability, motivation, and attention to detail.²⁰

What Should Students Know and Be Able to Do at Specific Grade Levels?

The Common Core State Standards²¹ for spelling at each grade level are fairly broad. Your district or state may have guidelines as to specific content for spelling instruction at different ages or grades. Malatesha Joshi and colleagues outlined spelling patterns and other concepts that are appropriate at each grade level.²²

Pre-K and kindergarten:

- Students engage in activities that heighten awareness of sounds in spoken language.
- Students begin to recognize which letters frequently spell a sound (/b/=b, /k/=k or c).

First grade:

- Students spell one-syllable words with one-to-one letter–sound correspondences (/b/=b, /g/=g, /m/=m).
- Students learn common patterns, such as initial or medial /k/ before *a*, *o*, *u*, or any consonant is spelled with *c* (*cap*, *color*, *cut*, *class*) and before *e*, *i*, or *y* is spelled with *k* (*kept*, *kite*, *sky*).
- Students learn that after a short vowel in a one-syllable base word, final /f/ is spelled *ff*, final /l/ is spelled *ll*, and final /s/ is spelled *ss* (*puff*, *bell*, *miss*).

Second grade:

- Students spell common inflectional endings (-s, -ed, -ing).
- Students learn that if a base word ends in a final *e* and a vowel suffix (a suffix that begins with a vowel) is added, the *e* is dropped before adding the suffix (*hope+ing=hoping*, *time+er=timer*).
- Students learn that if a base word ends in one vowel, one consonant, and one accent (all one-syllable words are accented) and a vowel suffix is being added, the final consonant in the base word is doubled (*runner, beginning* but *peeked, jumping, opening, gladness*).
- Students learn final /k/ after a short vowel in a one-syllable word is spelled *ck* (*back, sick, duck*), and final /k/ after a consonant or two vowels is spelled with *k* (*silk, desk, look, seek*).
- Students learn final /ch/ after a short vowel in a one-syllable word is spelled *tch* (*catch, pitch*) and after a consonant or two vowels is spelled *ch* (*bench, pouch*)—the words *which, such, rich, and much* are exceptions.

Third grade:

- Students learn more spelling patterns, such as medial /s/ is spelled with a *c* after a vowel and before *e, i, and y*, as in *grocery* or *recess*.
- Students spell multisyllabic words with an unstressed vowel or schwa (*sofa, alone, ribbon*).
- Students learn additional prefixes (*re-, mis-, ad-*) and suffixes (*-ist, -est, -er*).
- Students learn to change *y* to *i* when a suffix that does not begin with *i* is added to a base word that ends in a consonant and a *y*, such *happy-happiness, baby-babies*.

Fourth grade:

- Students learn Latin-based prefixes and suffixes, and roots such as *port* (*export, import, transport*) and *spect* (*spectacle, spectator, spectacular*).

Fifth and sixth grades:

- Students learn Greek combining forms, such as *photo* (*photography, photosynthesis*) and *philo* (*philosophy, philodendron*).

The outline above provides general guidelines about patterns and concepts students should know or learn at different grade levels. Certainly, when students are writing and demonstrate the need to know a particular pattern or concept, you can teach it to them regardless of their grade level.

Table 6.3²³ presents frequently recurring spelling patterns for sounds in different positions of words. Initial sounds are at the beginning of words. Final sounds are at the end of words. Medial sounds are between the initial and final sounds. For example, in the word /läst/, /l/ is the initial sound, /ä/ and /s/ are medial sounds, and /t/ is the final sound.

How Do You Assess Spelling?

Traditionally, spelling is assessed with weekly tests, where student spellings are marked as “right” or “wrong.” Although this kind of assessment will give you information about which words students know and which words they do not know, the assessment will not inform your instruction. Analyzing students’ spellings errors will help you evaluate your students’ understanding of sounds, letter patterns, and other spelling concepts.

To analyze your students’ spellings, you will need to be aware of the sounds within words. With this knowledge, you can determine whether a student’s spelling, although erroneous, demonstrates that the student at least is detecting all the sounds in the target word. For example, one student’s spelling of the word *brake* as *brak* demonstrates that the student detected each sound in the word even though another student’s spelling of *brake* as *bak* does not demonstrate the same awareness of sounds.

Table 6.3. Reliable spelling patterns**Initial and medial consonant sounds:**

- /k/ before *e, i, or y* is spelled *k* (*keep, kite, sky*)
- /k/ before *a, o, u,* or any consonant is spelled *c* (*cat, cot, cut, clap, crash*)
- /j/ before *e, i, or y* is spelled *g* (*gem, giant, gym*)
- /j/ before *a, o, or u* is spelled *j* (*jam, joke, junk*)
- /s/ after a vowel and before *e, i, or y* is spelled *c* (*grocer, recede*)

Final consonant sounds:

- /k/ after a short vowel in a one-syllable base word is spelled *ck* (*pack, sock*)
- /k/ after a short vowel in a word with two or more syllables is spelled *c* (*music, public*)
- /k/ after a vowel pair or consonant is spelled *k* (*peek, milk*)
- /j/ after a short vowel in a one-syllable base word is spelled *dge* (*badge, fudge*)
- /j/ after a vowel pair, long vowel, or consonant is spelled *ge* (*scrooge, cage, bulge*)

Initial and medial vowel sounds:

- /a/ before a final consonant sound is spelled *a-consonant-e* (*cake, rotate*)
- /a/ at the end of a syllable is spelled *a* (*table, canine*)
- /ē/ is spelled *ee* (*eel, meet, green*)
- /ē/ at the end of a syllable is spelled *e* (*even, equal*)
- /ē/ before a final consonant sound in a multisyllabic word is spelled *e-consonant-e* (*supreme*)
- /u/ before a final consonant sound is spelled *u-consonant-e* (*cube, infuse*)
- /u/ at the end of a syllable is spelled *u* (*unit, music*)
- /oi/ is spelled *oi* (*joint, appoint*)
- /ou/ is spelled *ou* (*round, astound*)

Final vowel sounds:

- /ā/ is spelled *ay* (*day, decay*)
- /ɪ/ is spelled *y* (*try, reply*)
- /ō/ is spelled *ow* (*show, window*)
- /ē/ in a one syllable word is spelled *ee* (*see, free*)
- /ē/ in a word of two or more syllables is spelled *y* (*candy, ugly*)
- /ū/ at the end of a word is spelled *a* (*tuba, sofa*)
- /oi/ is spelled *oy* (*boy, destroy*)
- /ou/ is spelled *ow* (*cow, endow*)

From Carreker, S. (2005). Spelling instruction: Foundation of reading and ornament of writing. *Perspectives*, 31(3), 22–25; adapted by permission.

In addition to understanding the sounds in words, you will need to understand the structures within words, such as prefixes and suffixes. With this understanding, you can assess students' spellings of derivatives (words that have a prefix and/or a suffix). For example, one student's awareness of suffixes, specifically inflectional endings, is reflected in the spelling of the word *pitched* as *piched*, but the same understanding is not demonstrated in a second student's spelling of *pitched* as *picht*.

Assessing errors is often the best way to measure student progress. Table 6.4 presents a student's errors on an initial benchmark measure spelling words with beginning and ending blends and the same student's errors on a second benchmark after 2 weeks of instruction focused on beginning blends. If you look only at the number of words spelled correctly, it seems as if the student has not made much progress from the first benchmark to the second benchmark, in spite of explicit instruction and practice. However, if you analyze the student's errors, her progress is more dramatic. In addition to spelling one more word correctly on the second benchmark measure, the student spelled all beginning blends and vowels correctly. On the initial benchmark measure, the student did not spell all the beginning blends correctly, and she omitted vowels in several words. The student is making progress, although she needs continued instruction and practice with ending blends.

Table 6.4. A student's performance on an initial spelling benchmark measure and 2 weeks later on a second benchmark measure after focused instruction and practice with beginning blends

Benchmark 1			Benchmark 2		
1.	mt	(mast)	1.	gap	(gap)
2.	bewd	(blend)	2.	lat	(last)
3.	stop		3.	brush	
4.	dk	(drink) 40%	4.	chip	
5.	fish		5.	step	
6.	shop		6.	slat	(slant)
7.	tash	(trash)	7.	dish	
8.	lit	(list)	8.	drak	(drank)
9.	chat		9.	shul	
10.	ptn	(plant)	10.	blat	(blast) 50%

How Does Assessment Inform Instruction?

Students' errors on spelling tests, writing assignments, and daily work will inform your instruction. Consider these three spellings of the word *brick* by three different students: *bk*, *prek*, and *brik*. All the spellings are incorrect; however, the spellings tell different stories that necessitate different instruction for each student. For the purpose of thinking about informed or differentiated instruction, let us assume that the error made by each of the three students is representative of the errors each student often makes on spelling tests and when writing.

Student One, who spelled *brick* as *bk*, does not detect all the phonemes or sounds in words. The first need that should be addressed is the student's phonemic awareness. Provide the students with counters or blocks. Dictate a word with three or four phonemes: *mat*, *last*, *shop*, *trip*. The student repeats the word and moves a counter or block for each phoneme. There is no urgency to teach this student how to spell final /k/ until he or she is more secure with phoneme segmentation.

Student Two, who spelled *brick* as *prek*, can detect the correct number of phonemes in words, but, as you can see, does not discriminate sounds well. The sounds /b/ and /p/ are easily confused. Get out a small mirror. When you look in your mirror and pronounce /b/ then /p/, the sounds are similar in how they look when you produce them (your lips are together and then pop open). When you pronounce /b/ and /p/, they feel similar as you produce them (you feel your lips are together and then separate). The only difference in the two sounds is that when you place your fingers on your vocal cords and pronounce /b/, you feel your vocal cords vibrate. But, when you pronounce /p/, your vocal cords do not vibrate. With this information, the student can better determine whether to use *b* or *p*. Similarly, /i/ and /ē/ are easily confused. Look in your mirror, and pronounce /i/ as in *itch*. Your mouth is spread out like a grin, and your lips are tight and close together. Now, look in your mirror, and pronounce /ē/ as in *echo*. Your chin drops, and your mouth is open. To help the student discriminate these two sounds, teach him or her, "/i/ makes you grin, /ē/ drops your chin." As you work with this student on discriminating confusing sounds, you can also present the spelling pattern for final /k/ spelled *ck*.

Student Three, who spelled *brick* as *brik*, can detect all the sounds in words and demonstrates good understanding of letters and letter patterns that reasonably represent sounds in words. Most errors this student makes demonstrate that he or she does not know how to spell sounds that have more than one possible spelling. With the word *brick*, the student just did not know when to use *ck*, which he or she is well poised to learn. As you can see by the three examples, students may misspell the same word in different ways and for different reasons. Each student requires instruction that is sensitive to his or her particular needs.

How to Teach?

Spelling involves translating sounds into letter patterns. Activities and strategies that heighten students' awareness of sounds in spoken words and spelling patterns in written words prepare students for spelling success.²⁴

Phonological (phonemic) awareness activities. Pre-K and kindergarten students can be engaged in phonological awareness activities that promote their awareness of sounds. Activities could have students 1) listen to an alliterative sentence and fill in a word that matches the alliteration (*Many muddy monkeys mischievously make messy _____*) or 2) listen and choose the one word out of four dictated words that does not begin with the same sound (*mat, mist, soup, mud*).

Letter tiles. Kindergarten and first-grade students can practice spelling words using letter tiles. For example, students have tiles with letters: *s, m, p, a, i, t, n*. You might ask students to spell the word *sat*. You say the word, emphasizing the sounds as you pronounce the word. Students say the word, move the tiles with *s, a, t* to spell the word, and read the word. Then, you say, "You have spelled the word *sat*. Trade one tile to spell the word *mat*." Students say the word, replace the *s* with an *m*, and read the new word. You can continue to have students spell words by replacing one tile at a time: *mat* to *pat*; *pat* to *pan*; *pan* to *pin*; *pin* to *pit*; and *pit* to *sit*.

Guided discovery. As Malatesha Joshi and colleagues suggested, "The primary mechanism for word memory is not a photographic memory, as many believe; it is insight into why the word is spelled the way it is" (p. 16).²⁵ Students need to understand the patterns of English spelling. With spellers in first grade and beyond, the use of guided discovery to teach spelling patterns heightens students' awareness of sounds and letter patterns in words.²⁶ Guided discovery of a spelling pattern might look like this:

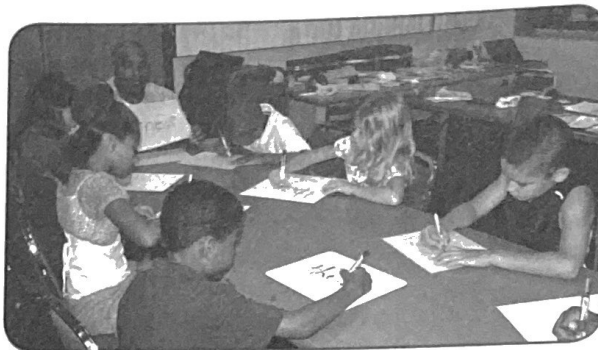
- Teacher: **Today you will discover a sound, how to spell the sound, and when to spell the sound that way. Listen as I read some words. Repeat each word after me.** [The teacher reads the words *pick, sock, stack, luck, and speck* one at a time as students repeat each word.] **What sound do you hear in each word?**
- Students: **The /k/ sound.**
- Teacher: **Where do you hear /k/—in initial, medial, or final position?**
- Students: **In final position.**
- Teacher: **What kind of vowel do you hear in each word?** [The teacher rereads the words.]
- Students: **The words have short vowel sounds.**
- Teacher: **How many syllables are in these words? In other words, how many times does your mouth open when you say each word?** [The teacher rereads the words and students repeat each word.]
- Students: **They all have one syllable.**
- Teacher: **Yes, all the words have one syllable.** [The teacher writes the words on the board.] **Look at the words. What do you see in each of these words?**
- Students: **All the words have *ck*.**
- Teacher: **Right, you have learned when /k/ is spelled *c* and when /k/ is spelled *k*. Now, tell me when you think /k/ is spelled *ck*. Think about all the different things you discovered.**
- Students: **When /k/ is at the end of a word, /k/ is spelled *ck* after a short vowel in a one-syllable word.**
- Teacher: **Now, you will apply what you have learned.** [Students spell *duck, lock, deck, black, and stick*.]

Notice in the introduction of the pattern that the students first discover information auditorily, what they hear. Students then discover the information visually, what they see. The students verbalize the pattern and apply their new learning by spelling words with the pattern.

Sorting words. Word sorts²⁷ can be used to heighten students' awareness of spelling patterns. On separate index cards, write words that share a common sound although the sound may not be spelled with the same letter patterns in all the words. For example, you could use these words: *pitch, rich, bench, catch, pouch, blotch, such, sketch, lunch, mulch, which, much, approach, clinch, speech, entrench*. Tell students that all the words have /ch/ in final position. When students sort the words by a common spelling pattern, they will sort them as words that end in *ch* and words that end in *tch*. Then, students will discover when to use *ch* versus *tch*. All the words that end in *tch* are one-syllable words and have short vowels. The words that end in *ch* have a consonant or two vowels, except for the words *which, rich, such, and much*. These four words have short vowels but are not spelled with final *tch*. The patterns that students will discover are 1) final /ch/ in a one-syllable word is spelled *tch*, 2) final /ch/ after a consonant or two vowels is spelled *ch*, and 3) the words *which, rich, such, and much* do not follow the patterns. Students generate other words that follow the patterns they have discovered.

Irregular words. Words that do not follow the recurring patterns of English are irregular words and are more difficult to learn to spell. These words must be held in memory because they cannot be spelled by sounding them out. You can use different strategies to help students permanently memorize irregular words.²⁸

1. Some words can be given a spelling or exaggerated pronunciation, such as /fră gīl/ for *fragile* or /wēd nēs dā/ for *Wednesday*. A spelling pronunciation creates a more vivid image of a word.
2. Words that share the same irregular pattern can be grouped together in a sentence: *Which rich people have so much money and drive such fast cars or The bright light at night is just right.* If students remember the spelling of one of the words, it increases the likelihood that they will remember the spelling of the others.
3. A trace-copy-spell-write page as presented in Figure 6.1 can be used, sparingly, for words that are particularly vexing to students.
 - a. Students fold the page on the dotted line, so the model of the word is in view.
 - b. Students look at the irregular word (*enough*) and circle the letter or letters that make the word irregular (*ough*).
 - c. Students trace the model of the word three times, and then copy the word three times with the model in sight.
 - d. Students spell the word with their eyes closed three times.
 - e. Students turn the page over and write the word three times from memory, with no model in view.
 - f. Students say the word and name the letters each time they spell the word.



Noah Webster once wrote, "Spelling is the foundation of reading and the greatest ornament of writing."²⁹ When students learn sounds and spelling patterns, they become better spellers. This same information reinforces and improves their decoding skills. In this way, spelling is the foundation of reading. Students who know how to spell have more cognitive resources available as they write. Students are also better able to use the most appropriate words to express their ideas when writing instead of settling for the simple words that are easy to spell. Students' attempts to spell more sophisticated words may not always be correct, but the usage of these words embellishes their writing.

SENTENCE CONSTRUCTION

What Is Sentence Structure and What Does Research Say?

Sentence construction is your knowledge of grammar, word order, and punctuation. Sentences are the building blocks for writing paragraphs, essays, and other forms of written discourse. Parts of speech are the building blocks for sentence construction. When sentence construction skills, like handwriting and spelling, are automatic, students have more cognitive resources for ideas and organization.³⁰ However, research suggests that when parts of speech and other aspects of sentence construction are taught in isolation, there is scant transfer or application of these skills to authentic writing experiences.³¹ The trick is balancing the explicit instruction of effective teaching with the real-world application of these skills.

What Should Students Know and Be Able to Do at Specific Grade Levels?

Expectations for grammar and punctuation are found in the language section of the Common Core State Standards³² for each grade level, beginning with kindergarten. The language standards for writing and speaking include the following:

Kindergarten. Students use frequently occurring nouns, verbs, and prepositions; form plural nouns (with *-s* as in *hats* and *-es* as in *dresses*); and produce and expand complete sentences.

First grade. Students demonstrate noun–verb agreement; use personal (*I, me*), possessive (*mine, ours*), and indefinite pronouns (*everything, everyone*); use articles (*the, a, an*) and frequently occurring adjectives, conjunctions, and prepositions; use past, present, and future verb tenses; use appropriate end punctuation in sentences; and write using simple and compound declarative, interrogative, imperative, and exclamatory sentences in response to a prompt.

Second grade. Students use collective nouns (*group, staff*), irregular plural noun forms (*geese, mice*), irregular verbs (*told, ran, said*), adjectives, and adverbs; produce and expand simple and compound sentences.

Third grade. Students understand the functions of nouns, pronouns, verbs, adjectives, and adverbs; form and use regular and irregular plural nouns and verbs; confirm subject–verb (*the dog barks* rather than *the dog bark*) and pronoun–antecedent agreement (*each student reads her paper* rather than *each student reads their paper*); use coordinating and subordinating conjunctions; use quotation marks in dialogue; form possessives; and produce simple, compound, and complex sentences.

Fourth grade. Students use relative pronouns (*who, which, that*) and adverbs (*when, where*); correctly order adjectives and use prepositional phrases; use model auxiliaries (*can, must*); use quotation marks and commas appropriately with coordinating conjunctions; and recognize and correct incomplete sentences and run-on sentences.

Fifth grade. Students explain the function of all parts of speech; use verb tenses to convey time, condition, and sequence; demonstrate conventions of capitalization and punctuation when writing; and use correlative conjunctions (*either/or*).

Sixth grade. Students can recognize nonstandard conventions, such as a shift in pronoun number and person and vague pronouns.

How to Assess Sentence Construction?

There are tests that measure different aspects of written composition, for example, the *Test of Written Language-Fourth Edition* (TOWL-4).³³ However, just as with your assessments of handwriting and spelling, a student's writing sample is a useful assessment tool. The questions you might ask that are specific to sentence construction are 1) are all sentences complete, 2) does the student order words in sentences correctly, 3) does the student use proper agreement (subject–verb or pronoun–antecedent), 4) does the student use appropriate capitalization

and punctuation, 5) does the student use parts of speech correctly (*the child did well* rather than *the child did good*), and 6) does the student's variety of sentence structures match the expectations for his or her grade level?

How Does Assessment Inform Instruction?

Examining students' writing samples informs instruction for written composition. Consider a fourth-grade student whose teacher has evaluated one of her writing samples. The teacher's assessment: the student uses only simple sentences. The teacher knows this student must learn conjunctions, so she can write compound and complex sentences. Here is the student-teacher conference that might ensue to teach the student conjunctions:

- Teacher: Martinique, your story about your birthday party was hilarious! I felt as if I had been there. How is that cute puppy that helped open your presents?
- Martinique: Best birthday present ever!
- Teacher: You have great ideas and a wonderful voice. One thing to think about when you write is to combine sentences. Combining sentences will make your writing really smooth and clear. For example, you wrote these three sentences:
Daddy chased the pup.
Mama screamed.
The kids went crazy.
You might combine these sentences using the words *while* and *and*. For example: *While Daddy chased the pup, Mama screamed, and the kids went crazy.*
The words *while* and *and* are conjunctions. Conjunctions join two words, phrases, or sentences together. When you combine your sentences with conjunctions, the reader has a really good sense of what happened!

As you can see in this conference, the teacher has assessed the student's needs using a writing sample, affirmed the student's efforts, and taught conjunctions in an authentic manner.

How to Teach?

Students' writing samples inform your instruction and can be used as an integral part of your instruction. For example, parts of speech can be explicitly taught in a clear and concrete manner to younger students and then linked to their writing samples. An example of teaching parts of speech in this manner will be presented. An effective activity for older students is writing summary paragraphs of passages students have read. This activity, which helps students learn about writing conventions, will also be presented.

Parts of speech. The eight parts of speech are tied to sentence construction. Some parts of speech are essential for a sentence to be complete. Other parts of speech add additional information to help convey the writer's precise message or viewpoint to the reader. A solid understanding of nouns (and pronouns), verbs, and articles can give a solid foundation for writing sentences. As you look at these examples of teaching the parts of speech, notice that the function of each part of speech is emphasized.³⁴ Students do not just memorize a definition, they understand *why* the part of speech is important.

Nouns (and pronouns). Nouns name a *person, place, thing, or idea*. To establish the need to know nouns, present four yellow objects and ask a student, "Can you give me the yellow?"³⁵ That student and two other students you ask will be unable to choose the "correct" yellow object. Their "failure" to choose the correct object will lead to an understanding of the function of nouns and why nouns are important. If there were no nouns, it would be difficult to know who or what someone is talking about. It would have been easier for the students to choose the correct object if it you had given the object a name. Nouns are color-coded yellow. Because

pronouns take the place of a noun, pronouns are also color-coded yellow. Students can look at a sample of their writing and underline the nouns in yellow. In this way, explicit instruction of nouns is linked to their writing.

Articles. There are three words in English that are called *articles*—*a*, *an*, *the*. If you were given this traditional definition, “an article modifies a noun,” you probably would not think the definition helpful in understanding what an article was and why it was necessary. Now, think about the function: an article warns that a noun is coming. Much better! Articles are color-coded red, which is a warning color. In a writing sample, students can underline articles and draw an arrow from an article to the noun it modifies or describes. Examples follow:

The dog barks.

An elephant eats peanuts.

Verbs. Verbs show action, being, or state of being. Write this sentence on the board:

I can _____. Students generate words that complete the sentence. The generated words (*dance, read, sing, play, hop, work*) show action. Verbs are necessary; without verbs, no one could do anything. Verbs are very important; every sentence must have a verb. Other verbs include linking verbs (*appear, be, become, feel, prove, remain, seem*) and auxiliary or helping verbs (*be, can, do, have, may, must, should, will, would*). All verbs are color-coded orange. Students can look at one of their writing samples or writing samples of other people and underline all verbs in orange.

Subject and predicate. The *subject* tells who or what the sentence is about, or in other words, the subject is the subject noun and all the words that go with it, so the subject can be highlighted in yellow. The *predicate* tells what is said about the subject, or in other words, the predicate is the verb and everything that comes after it, so the predicate can be highlighted in orange. A complete sentence, which is also an independent clause, has a yellow part (the subject) and an orange part (the predicate). If a group of words does not have a yellow part and an orange part, it is not a complete sentence. As students learn more parts of speech, the lengths of their sentences grow as well as the lengths of the subjects and the predicates within the sentences.

Understanding that a complete sentence (independent clause) must have a subject and a predicate helps students know if their sentences are complete. Knowing that the subject is tied to a subject noun will help them identify the subject. Knowing that the predicate is tied to a verb will help them identify the predicate.³⁶

Summarization. A very effective strategy for writing is to have students summarize a passage or part of a text that they have read.³⁷ That might seem strange to you, but summarization of reading materials teaches students to be concise in their writing endeavors. Figure 6.2 presents a comprehension passage and a third-grade student’s summarization of that passage. Notice how the student uses fewer words and still captures the essence of the original passage. Summarizing a passage or text gives students something to write about and exposes them to new vocabulary words. The reading materials also provide models of sentence structure, capitalization, and punctuation.

SUMMARY

Louisa Moats captured the importance of foundational or transcription skills in this quote, “writing is a mental juggling act that depends on automatic deployment of basic skills such as handwriting, spelling, grammar, and punctuation, so that the writer can keep track of such concerns as topic, organization, word choice, and audience needs” (p. 12).³⁸ To make written composition less of a juggling act, teachers must make all the foundational elements of written composition so automatic that there is but one focus—the purpose of the composition. When writers are freed from the foundational skills, the purpose is clearly evident and appreciated by the reader!

Passage:**Elephants**

Elephants are the largest of all land animals and can weigh more than 12,000 pounds! The average height at the shoulder is 10 feet. At birth, an elephant calf is 3 feet tall and weighs about 200 pounds.

The two kinds of elephants are African and Asian elephants. African elephants are generally heavier and taller than Asian elephants. African elephants have much larger ears, which are shaped somewhat like the continent of Africa and weigh about 110 pounds each.

Elephants feed mainly on roots, leaves, fruit, grasses, and sometimes, tree bark. An adult elephant eats as much as 300 pounds of food a day, but it only digests half of the food it eats. Elephants sometimes walk hundreds of miles in search of water and food.

The elephant's trunk is very versatile. The elephant inhales and exhales through two nostrils at the end of its trunk. It can swim long distances using the trunk as a snorkel. There are fingerlike parts at the tip of the trunk, enabling the elephant to grasp objects as small as a single blade of grass. An elephant calf sucks its trunk just as a human baby sucks its thumb.

Student Summary:

Here are facts about elephants. They stand 10 feet and can weigh 12,000 pounds. Baby elephants stand 3 feet and weigh 200 pounds. African elephants are larger and heavier than Asian elephants and have ears shaped like Africa. Each day elephants eat 300 pounds of food such as roots, grasses, leaves, and fruit. Their trunks are used for breathing, snorkeling, and grasping. Babies suck their trunks.

Figure 6.2. Sample comprehension passage and a third-grade student's summary of the passage. (From Neuhaus Education Center. [2003]. *The colors and shapes of language: Units for developing oral language and listening comprehension*. Bellaire, TX: Neuhaus Education Center; adapted by permission.)

APPLICATION ASSIGNMENTS

In-Class Assignments

1. Try this simulation to see how difficult writing can be.
 - On a blank sheet of paper, draw a five-pointed star that is about the size of your fist.
 - Take a small mirror and, with the hand you write with, hold it perpendicularly to the star on your paper, making sure that your star is completely visible in the mirror.
 - Place your pencil in your nondominant hand, the hand you do not write with.
 - While looking only in the mirror and as fast as you can, trace the star, making sure that you stay on the lines. Go ahead, try it!

Undoubtedly, you found it difficult to trace the star with your nondominant hand while looking only in the mirror. You probably traced your star very slowly, had to stop and start several times, fell off the lines, and concentrated really hard on which way you needed to move your hand. Welcome to the world of poor handwriting! Imagine that you are trying to write a composition under a similar condition. You are a student with great ideas, but how do you compose and remember your ideas and think about sentence construction and how to spell the words you want to use when all your attention is focused on how to form a particular letter? With a partner, share thoughts about this experience.
2. Teaching handwriting
 - Prepare a handwriting model of a letter. Use Figure 6.1 as a guide.
 - Teach the letter you have chosen to your partner.
3. Spelling—Using the sample script provided in this chapter as a guide and using Table 6.3 for information, introduce that the pattern final /j/ after a short vowel in a one-syllable word is spelled *dge*.

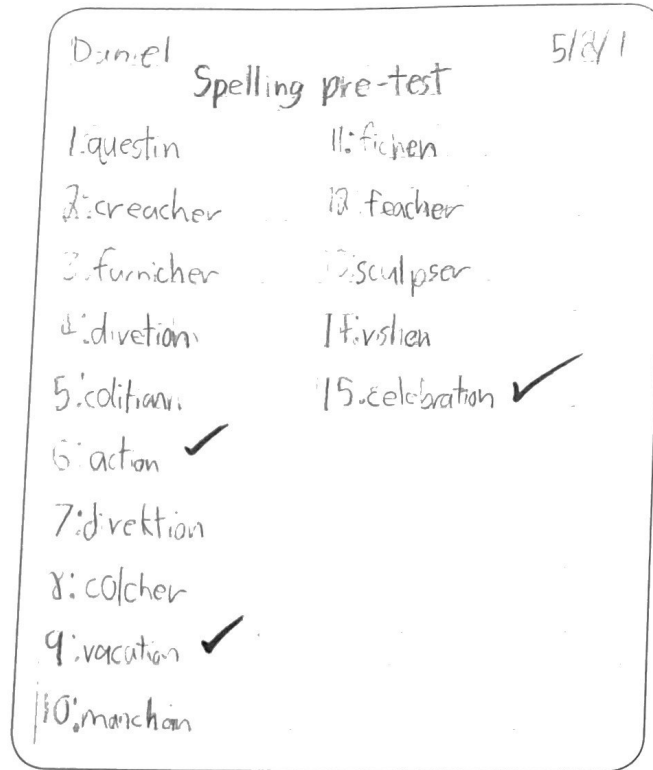


Figure 6.3. Spelling test 1.

- Examine the spelling test inserted above (Figure 6.3). Determine what this second-grade student knows about spelling. Make a list of patterns he needs to learn. Determine what you will teach him first and how you will teach him. Describe specific activities you could use to reinforce spelling for this student.
- Sentence construction—Read the passage presented in Figure 6.2. Do not look at the student summary. Write your own summary using about 60 words.

Tutoring Assignments

- Handwriting—Examine a student's writing sample. Assess his or her handwriting. Using the information from the chapter, determine if handwriting might be a deficit area for the student. Describe why you think your student does or does not have difficulties with handwriting.
- Spelling—Prepare the word sort with final /ch/ that was outlined in this chapter. Have your student sort the words and verbalize the patterns he or she discovers.
- Sentence structure—In the context of authentic writing, teach the concepts of nouns, verb, subject, predicate, and complete sentence to your student using the information in this chapter.

Homework Assignments

- To teach the foundational skills of written composition requires considerable knowledge and skill. The International Dyslexia Association has established Knowledge and Practice Standards for Teachers of Reading. The standards are available as a PDF at <https://dyslexiaida.org/>. View the document on the site. Identify all the standards that apply to the knowledge and skills teachers need to teach the foundational skills of written composition.

2. As you teach spelling, it is important for you to understand the frequently recurring patterns of English and to be reflective about the language. Review Table 6.3. Write 10 words for each spelling pattern that exemplify the pattern. You can include the example words used in Table 6.3.
3. There are five rules that determine when a letter in the spelling of a word should be doubled, dropped, or changed. View the webinar at <http://library.readingteachersnetwork.org/webinars/five-spelling-rules>. Write the checkpoints for each of the five rules, and give five examples and five nonexamples for each spelling rule.
4. Examine the spelling test inserted below (Figure 6.4). It is the same test you examined in an earlier assignment. This was the result after the student received instruction. What is the good news? Look what can happen with effective instruction!

100

Daniel Spelling test 5/6/11

1. question ✓	11. fiction ✓
2. creature ✓	12. feature ✓
3. furniture ✓	13. sculpture ✓
4. division ✓	14. vision ✓
5. collision ✓	15. celebration ✓
6. action ✓	
7. direction ✓	
8. culture ✓	
9. vacation ✓	
10. mansion ✓	

Figure 6.4. Spelling test 2.

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1. Berninger (2009).
2. Graham, Harris, & Fink (2000).
3. McCutchen (1996).
4. Graham & Weintraub (1996).
5. Graham (2009/2010).
6. Council of Chief State School Officers & National Governors Association (2010).
7. Carreker (1992).
8. Graham & Weintraub (1996).
9. Graham & Weintraub (1996).
10. Graham (2009/2010).
11. Graham, Berninger, Abbott, Abbott, & Whitaker (1997).
12. Wolf (2005).
13. Gentry (1982).
14. Moats (1995).

15. Read (1971).
16. Treiman (1993).
17. Joshi, Treiman, Carreker, & Moats (2008/2009).
18. Moats (2005/2006).
19. Graham et al. (1997).
20. Carreker (2011).
21. Council of Chief State School Officers & National Governors Association (2010).
22. Joshi, Treiman, Carreker, & Moats (2008/2009).
23. Carreker (2005).
24. Joshi et al. (2008/2009).
25. Joshi et al. (2008/2009).
26. Carreker (2011).
27. Bear, Invernizzi, Templeton, & Johnson (2008).
28. Carreker (2011).
29. Venezky (1980).
30. Hillocks (1986).
31. Graham & Perin (2007).
32. Council of Chief State School Officers & National Governors Association (2010).
33. Hammill & Larsen (2009).
34. Carreker (2002).
35. Carreker (2006).
36. Carreker (2006).
37. Graham & Perin (2007).
38. Moats (2005/2006).

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The Common Core State Standards and Text Complexity

by Elfrieda H. Hiebert

For a long time, educators have asked questions about what makes a text difficult. Why is it harder for students to read some books than others? How can we help students select texts that will promote their reading while not frustrating them? What type of texts will increase reading achievement most effectively? What texts will motivate students to read more and reinforce skills they need to learn and to develop a life-long enjoyment of reading?

Determining text difficulty is complex. Any reading act involves a text—something with written language on it. That is what makes reading different from getting information from oral language. But the reading of any text is also influenced by the characteristics of readers (What does the reader know? How well does the reader recognize new words or think strategically) and context (Is the reader given assistance in pronouncing words?). For a long part of the history of American reading education, determining text complexity has been either to rely on people's judgments (typically those of editors in publishing houses and expert consultants that they hire) or quantitative formulas (numbers that rate the relative difficulty of a text, e.g., readability formulas).

The question of text complexity is especially important at the present time because of the expectations established in the Common Core State Standards (CCSS).¹ In the near future, the view of text complexity is going to be powerful in terms of the assessments that students are given, and it is going to determine how the students' accomplishments are viewed and the kinds of texts that are given to them.

Objectives: After studying this chapter you will be able to do the following:

1. Describe the emphasis on text complexity within the Common Core State Standards (CCSS).
2. Explain three overall approaches to text difficulty.
3. Implement informed choices of text using a combination of the three approaches.

TEXT COMPLEXITY AND THE CCSS

Beginning in the middle to late 1980s, states began to develop standards that describe what students should know at particular grades. Typically, the guidelines for reading and language arts of many states have simply described the kinds of strategies and knowledge that readers should have at particular grades. The level of text to which that knowledge was to be applied was not prescribed. The typical phrase in a state standards document was "on-grade-level" text. It was not clear how "on-grade-level" was determined nor how complexity of text

was defined. Another challenge was that “on-grade-level” could mean texts were determined to be on varying grade levels depending on the expectations of different schools and communities.

This situation changed with the CCSS. The CCSS has an entire standard devoted solely to text complexity. Standard 10 defines a grade-by-grade “staircase” of increasing text complexity that rises from beginning reading to the college and career readiness level. The reading standards place equal emphasis on the sophistication of what students read and the skill with which they read.

The CCSS Initiative takes a perspective on text complexity that is similar to one that scholars have taken for almost 100 years.² According to this view, three factors need to be considered in determining the difficulty of a text:

1. *Quantitative*: To get a sense of the difficulty of government documents and also school texts, scholars have worked hard for almost 100 years to get quantitative measures of the difficulty of a text. You probably have such a measure on your computer such as the Flesch-Kincaid.^{3,4} Application of the software indicates that, at least at this point, this chapter has a difficulty that is estimated to be at the first month of grade 10.
2. *Qualitative*: It is hard to say that a classic such as *To Kill a Mockingbird*⁵ is “three times” harder than the latest John Grisham novel⁶ but even a fairly quick overview of these two books leaves a reader with the sense that these books are different in some important ways. Such differences are described as qualitative and, while identifying qualities that distinguish a classic and a simple “good read” can be difficult, literary and education experts have identified features such as the levels of meaning required (e.g., readers need to make inferences to understand a character’s motive).
3. *Reader-task components*: The system also recognizes that features of those who are reading a text, such as their motivation and prior knowledge, will influence comprehension of a text. For example, someone who knows a great deal about World War II will respond quite differently to the bestseller *Unbroken*⁷ than someone who does not have any background knowledge about World War II. This part of the equation also recognizes that there are ways in which teachers and situations can influence how comprehensible a text is for a reader. For example, listening to an audiotape of a text or having the support of an instructor in understanding a text are likely to influence readers’ comprehension.

Such a three-part system of text complexity fits with what is known about texts and readers. But even though this three-part system is a reasonable one, examples of all of the system’s components were not available when the standards were released. In its final form, the CCSS gives explicit guidance for determining only the quantitative component, and, even for that component, it describes only one scheme—Lexiles, a recent form of a readability formula.⁸ The term “Lexiles” will be explained extensively in subsequent parts of this chapter. But, at this point, what is important to know is that Lexiles are a recent type of readability formula that uses digital technology to apply a quantitative formula to thousands and thousands of texts. In fact, Lexiles have been applied to all of the books available on sale at the Barnes & Noble web site. If you want to check out titles of books that you are reading, you can find their Lexiles at <http://www.lexile.com>.

Within the CCSS, the Lexiles have been recalibrated from longstanding recommendations for particular grade levels to a grade-by-grade “staircase” from beginning reading to the college and career readiness level. Beginning with the grade 2–3 band, Lexiles have been increased to ensure that high school texts have the difficulty of texts assigned in college classes and used in many careers. The specific Lexiles by grade bands, the ease of obtaining Lexile scores, and the lack of ready access to validated qualitative rubrics mean that considerable weight could be placed on Lexiles in choosing texts for instruction and assessment in schools over the next decade (if not beyond that).

Much of this weight could be laid on the shoulders of teachers who could be asked to have their students read texts that are simply too difficult for them. Giving students texts that are too difficult for them does not support their growth in reading capacity—the central goal of the CCSS. As professionals, you need to be able to evaluate the data on Lexiles. You also need to be able to supplement these data with qualitative information on the texts as well as on your knowledge of students and the situations in which you are asking students to read texts. The next section gives you additional background to understand the appropriate uses and shortcomings of quantitative measures such as Lexiles and also ways in which quantitative data need to be evaluated in relation to professional wisdom about the features and content of texts, the capabilities and interests of students, and the contexts in which students are reading the texts.

THREE PRIMARY APPROACHES TO TEXT COMPLEXITY

Quantitative Information

For almost a century, readability formulas have been used in American schools to describe the difficulty of texts. An estimate is that more than 200 readability formulas have been developed.⁹ With few exceptions, readability is established through formulas that use information on two features of texts: the complexity of the sentences and the complexity of the vocabulary in the text. The first component is almost always measured in number of words in sentences. There is a little more variability in how vocabulary complexity is measured. Some readability formulas like the Dale-Chall (1948)¹⁰ compare the words in a text to those on a list of words that have been identified as appropriate for different grade levels. One very popular readability formula developed by Fry (1968)¹¹ counts the number of syllables. Fry's view was that the more syllables in a word, the harder it is.

Lexiles are based on a third system of measuring vocabulary complexity. Words in samples of a text are compared to a database that began with a group of approximately 135,000 unique words and now has expanded to include many more unique words (although likely not all of the approximately 750,000 words in the British National Corpus).¹² A log of the mean frequency of the words in the text is used in a formula with the mean sentence length. The computation produces a Lexile that can be placed on a scale, which spans 0 (easiest texts) to 2000 (most complex texts). For example, the Lexile for a well-loved and award-winning book, *Sarah, Plain and Tall*,¹³ is 430, while *Green Eggs and Ham*¹⁴ has a Lexile of 30 and *Pride and Prejudice*¹⁵ is given a Lexile of 1030. These numbers are consistent with a general direction that makes sense to most educators acquainted with these texts. *Green Eggs and Ham* is easy; *Sarah, Plain and Tall* is somewhat harder; and *Pride and Prejudice* is the most complex of the three.

When an individual text is examined for purposes of instruction and independent reading, however, particular features of a text can mean the Lexile is not sufficient to predict how well a student may be able to read a particular text. For example, *Harry Potter and the Chamber of Secrets*¹⁶ and *The Old Man and the Sea*¹⁷ have the same Lexile: 940. While the Harry Potter book is by no means a simple one, it has a style and content that likely make it more comprehensible to a sixth grader than the Hemingway text.

Scholars have long been aware of the problems with readability formulas, many of which were summarized in a national report in the 1980s.¹⁸ One problem is that sentence length can influence the readability level. Narratives (i.e., stories) often have dialogue, and the sentences of oral language are often short. Short sentences do not necessarily make a text easy to read. The presence of dialogue and typically shorter sentences in narratives than in informational texts mean that readability formulas such as Lexiles typically *underestimate* the difficulty of a text.

There are also several problems with the ways in which vocabulary is computed that means that the difficulty of informational texts is often *overestimated*. One reason is that the

writers of informational texts typically repeat words often because terms in social studies and science are precise and do not have synonyms (e.g., *photosynthesis*). Because many of these words are rare, that means that the vocabulary of a text will be rated as very difficult. Readers, however, pick up a word after several uses of it, and it becomes “easier” to read. The readability formula, however, does not take this into account. The repetition of the infrequent words can be an aid to comprehension and vocabulary learning. Further, the words in an informational text usually relate to a theme that also can make words easier to comprehend.

The “rare word” phenomenon that leads to a high (i.e., more difficult) readability is not limited to informational texts. Often, names of characters or places in stories are rare and are repeated often, such as *Mudge* in *Henry and Mudge*,¹⁹ increasing the purposed difficulty of the text. *Mudge* is a very infrequent word, and its repetition (30 times in the entire text) means that the text is rated harder than *Sarah: Plain and Tall* even though *Henry and Mudge* is a very straightforward book appropriate for second graders.

What professionals need to be bear in mind is that readability formulas give an overall indication of the difficulty of a text relative to thousands of other texts. Once a book has been established to be in a particular grade span, the teacher’s difficult task begins—understanding the demands of the book for students.

Qualitative Measures

Benchmark Texts. One way of establishing whether texts are appropriate for particular students is to do a “comparison” with a text that educators agree represents the demands of a particular grade level. These are often referred to as benchmark texts. The CCSS provides exemplar texts but these have not been validated by either teachers or through a variety of analyses, so at this time they cannot be considered benchmark texts. Jeanne Chall, with a group of colleagues, identified a set of texts almost two decades ago and validated them with teachers and school administrators.²⁰ Table 7.1 provides a list of benchmark texts that includes some from Chall’s list, others identified by the CCSS writers, and an additional set that I and my colleagues chose to represent the diversity among American students.²¹ These texts have been analyzed and correlated with particular developmental levels.

A comparison of *The Birchbark House*²² to the book benchmarks in Table 7.1 makes it clear that it is very similar to the benchmark texts for grade 5, even though it has a Lexile of 860, which places it in grade 4, according to the new levels in the CCSS. Its content is very similar to *Island of the Blue Dolphins*,²³ which, for several generations, has been a book enjoyed by fifth and even sixth graders. The heroine of *The Birchbark House* must deal with the challenges brought on by the appearance of Europeans, different in form but similar in their dilemmas as the heroine of *Island of the Blue Dolphins*.

Qualitative dimensions. As described earlier, educators and literary experts work to define dimensions that describe features of texts that move from simple to more complex features. The CCSS identified four such dimensions, and Table 7.2 provides a fleshed out description of each of those dimensions at three points in time—the beginning, middle, and end of the elementary years. These dimensions will be applied to several books shortly, but, before doing that, it is also important to understand ways of describing readers and the tasks they are asked to do with texts.

Readers and Tasks

Standards such as the CCSS can be viewed as a type of map that points educators to the goal for high school graduates to be reading texts used in colleges and careers. All students may not be at the same point at the same time (they never are) but they are all moving toward attaining the same capacities. What teachers need are milestones along the way to let them and their students check in to see where they are in relation to the goal. Once again, I turn to the

Table 7.1. Benchmark books (narrative)

Grade level	Benchmark books	Description
1	<i>Green Eggs and Ham</i> ^a End of first grade/beginning of second grade: <i>The Fire Cat</i> ^b <i>Frog and Toad</i>	Structure of text is simple. Illustrations play a central role in enhancing story content.
2	Middle: <i>The Treasure</i> ^b <i>Henry & Mudge</i> End: <i>The Bears on Hemlock Mountain</i> ^a <i>Tops & Bottoms</i> ^b	Straightforward development of a theme.
3	Middle: <i>The Stories Julian Tells</i> ^b <i>Grandfather's Story</i> End: <i>The Magic Finger</i> ^a <i>The Lighthouse Family</i> ^b <i>Beezus & Ramona</i>	Themes can deal with challenging concepts (e.g., decimation of rain forest) but story structure and development of characters are straightforward.
4	<i>Soup and Me</i> ^a <i>The Black Stallion</i> ^b <i>Because of Winn-Dixie</i>	Feelings and motivations of characters are a focus of text and are multifaceted; characters face personal, family, school-related challenges.
5	<i>The Light in the Forest</i> ^a <i>Higgins the Great</i> ^b <i>Island of the Blue Dolphins</i>	As with previous level, feelings/motivations are central but the challenges encountered by characters include societal/environmentally complex circumstances/issues.

From Chall, J.S., Bissett, G.L., Conard, S.S., & Harris-Sharples, S. (1996). *Qualitative assessment of text difficulty*. Cambridge, MA: Brookline Books; reprinted by permission.

^aChall, Bissett, Conard, & Harris-Sharples (1996)

^bCommon Core State Standards (2010)

work of Jeanne Chall, a premiere reading researcher of the past century. Chall²⁴ identified six milestones or stages, one of which I have subdivided to create an additional stage, resulting in the seven stages in Table 7.3.²⁵

Table 7.2. Qualitative dimensions of text complexity

Dimension	Stage 1	Stage 3	Stage 5
Levels of meaning/ purpose	Single level of meaning (often supported by illustrations) Aims/themes explicitly stated	More than one level of meaning (e.g., <i>Great Kapok Tree</i> where an individual's choices relate to the choices of many) Inferencing of characters' motives and/or how features of context may influence plot	Multiple levels require drawing extensively on reading/ experiences from other sources Implicit purpose may be hidden or obscure
Structure	Texts follow structure of common genres (e.g., simple narrative, enumerative expository)	Texts include less common genres (e.g., autobiography, cause-effect expository)	Traits specific to a content-area discipline or use of unique chro- nologies/perspectives (literary)
Language conventions & clarity	Literal	Figurative; some irony (e.g., Dahl)	Literary: high level of figurative, metaphorical language (e.g., Hemingway)
Knowledge demands	Simple theme	Complex ideas interwoven	Interconnected theme

From Hiebert, E.H. (2011). *The text complexity multi-index*. Santa Cruz, CA: TextProject, Inc.; reprinted by permission.

Table 7.3. Developmental stages of reading

Stage	Primary task	Grade span
0	Prereading	Through kindergarten
1	Initial reading or decoding	Grades 1–2
2	Confirmation, fluency, ungluing from print	Grades 2–3
3	Reading for learning new content and developing basic background knowledge	Grades 4–6
4	Reading for increasing content knowledge	Grades 7–8
5	Reading for multiple viewpoints	High school
6	Construction and reconstruction: A world view	College

The stages are an adaptation and extension of Chall, J.S. (1983). *Stages of reading development*. New York: McGraw-Hill Book Co.

Readers are not always easy to place in stages because growth can be erratic, and content can influence readers' actions. For example, young children love informational texts (and need to have an abundance of them), which seems somewhat at loggerheads with the distinction of learning content in stages 3 and 4. However, before readers can devote considerable attention to *new* content for which they do not have background knowledge, they need to be sufficiently automatic with the "code" of written language. Chall's stages give a sense of the primary milestones that readers face in becoming proficient through the school years.

The tasks of reading, just as is the case with readers and texts, are also complex.²⁶ For purposes of an initial analytic scheme, however, task dimensions have been limited to three: 1) the social configuration, 2) form of response, and 3) the allocation of time. Each of these dimensions is represented in Figure 7.1. As this figure shows, each dimension of a task does not lend itself to a scale where one end represents "easy" and the other "difficult." Rather, the critical component of these dimensions is the degree to which students are asked to be independent in the reading task and the level of open-endedness there is in both the kinds of response that are required from reading and in the time period that students have for the task. At one extreme, students are guided in every act of reading with time prescribed and the teacher monitoring their every response. At the other extreme, students are free to respond in whatever way they want to what they read (or even not to respond at all), with little guidance from their teacher and with few time constraints. Neither of these extreme scenarios is typical of classroom life where the features of tasks shift from lesson to lesson. The elements in Figure 7.1 simply point to the features of decisions that teachers need to make in designing reading tasks in their classrooms.

How to Use the Three Forms of Information: The Text Complexity Multi-Index

This section demonstrates how professionals use the three forms of information to make choices about which texts to use with which students in a process labeled the Text Complexity Multi-Index (TCMI).²⁷ You can think of the TCMI process much like making an online purchase in which you have to go through specific steps of selecting a product, entering your billing information and address, and confirming the purchase. Similarly, when you are considering which text to use with which students, you are analyzing a text through a series of steps—beginning with the quantitative, moving to the qualitative, and then considering the readers and task/context. The process is illustrated in Table 7.4 with three texts that were identified within the CCSS as exemplifying the grade 2–3 grade band but without information as to where during this period the texts should be used.

The first step in the process is to examine the quantitative data on Lexiles. The information on the Lexiles places the texts in this order of difficulty: *The Fire Cat*²⁸ (480L), *Henry and*

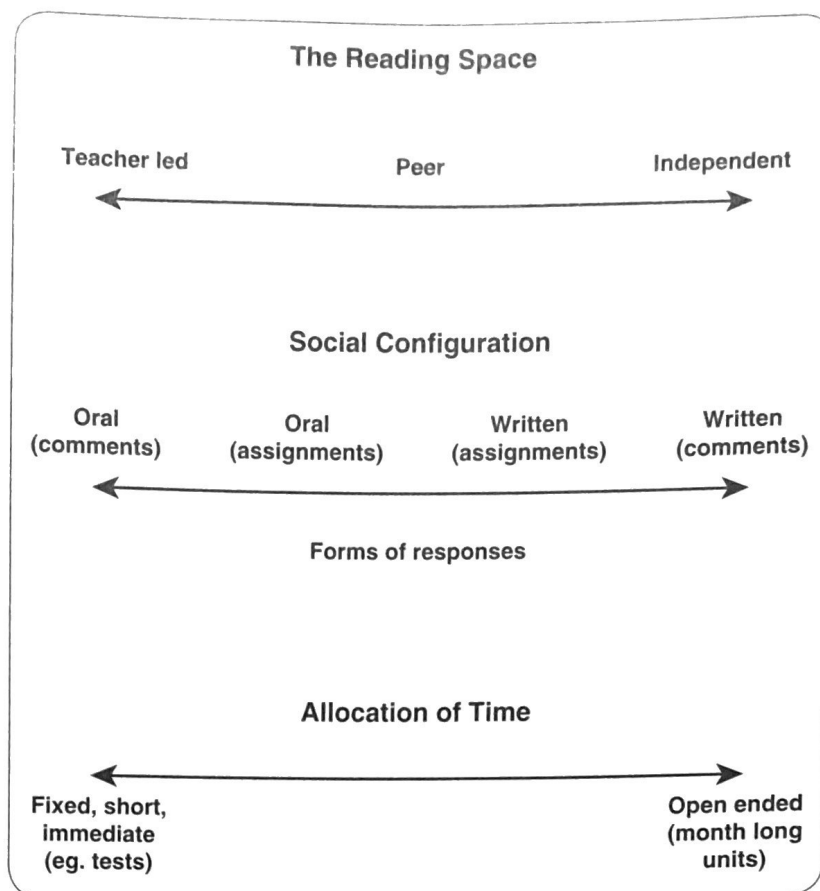


Figure 7.1. The reading space. (From Hiebert, E.H. [2011]. *The text complexity multi-index*. Santa Cruz, CA: TextProject, Inc.; reprinted by permission.)

Mudge (460L), and *Sarah: Plain and Tall* (430L). *Fire Cat* and *Henry and Mudge* have Lexiles that are within the first part of the Lexile range for grades 2–3. The Lexile for *Sarah* falls below the grade 2–3 band into the K–1 levels.

But, you will remember the cautions that were raised about relying just on the overall Lexile. It is also important to look “inside” the Lexile at the two measures that are used in the formula: sentence length (Mean Sentence Length or MSL) and vocabulary/word frequency (Mean Log Word Frequency or MLWF). From the examination of sentence length and vocabulary/word frequency, a different picture emerges. *Sarah* has the most common words, while *Henry and Mudge* has more uncommon words, which can be traced to the 30 appearances of *Mudge* in the text. The situation with *Fire Cat* is similar—the names of characters appear frequently. Rare words in *Sarah* typically appear once or twice in the chapter or even the whole book. But when these words appear, they are challenging (e.g., *hearthstones*, *wretched*, *holler*).

From the quantitative analysis, it is uncertain as to the appropriateness of assigning *Sarah: Plain and Tall* to beginning second graders and the other two books to slightly more able readers. The next step of the TCMI process where the texts are compared with benchmark books gives additional direction. *Fire Cat* looks very similar to a prototypical beginning second grade book—*Frog and Toad*. In fact, when the cover of *Fire Cat* is examined, it is evident that it is from a commercial reading program with a similar designation as *Frog and Toad*. *Henry and Mudge* is even easier to classify in that, through a series of analyses with teachers (and of existing reading programs), *Henry and Mudge* is a clear choice for a mid-second grade book. Because *Sarah: Plain and Tall* received a Newbery award and is similar to the *Little House*²⁹ series, a classification as a third-grade book is appropriate.

Table 7.4. The Text Complexity Multi-Index process

Step	Sarah: Plain & Tall	Henry & Mudge	The Fire Cat
1. Quantitative indices	<i>Lexile</i> : 430 MLWF: 3.84 MSL: 8.44	<i>Lexile</i> : 460 MLWF: 3.65 MSL: 7.98	<i>Lexile</i> : 480 MLWF: 3.76 MSL: 8.68
2. Qualitative benchmarks	Middle of grade 3 (<i>Grandfather's Story</i>)	Middle of grade 2 (<i>The Treasure</i>)	End of grade 1 (<i>Frog & Toad</i>)
3. Qualitative dimensions			
Levels of meaning/purpose	Numerous levels of meaning: pioneer story but also story of a motherless family	Single level of meaning that is easy for children to grasp (similar to television sitcoms)	Characters are straightforward and follow the pattern of many simply written books
Structure	Follows a fairly conventional narrative sequence	Follows a fairly conventional narrative sequence	Follows a fairly conventional narrative sequence
Language conventions and clarity	Use of language is simple but elegant. Some archaic words (e.g., <i>hearthstones</i>).	Very straightforward	Very straightforward
Knowledge demands	High: Knowledge of pioneer life and effects on life of geography	Little, if any	Little, if any
4. Reader and tasks	Appropriate for teacher-led discussions with third graders (i.e., early Stage 2 readers)	Appropriate for repeated and independent reading for most readers in Stage 2	Appropriate for repeated and independent reading for most readers at end of Stage 1

From Hiebert, E.H. (2011). *The text complexity multi-index*. Santa Cruz, CA: TextProject, Inc.; reprinted by permission.
Key: MLWF, mean log word frequency; MSL, mean sentence length.

The conclusion at this point in the process is that *Henry and Mudge* and *Fire Cat* are appropriate for second-grade readers and that *Sarah: Plain and Tall* is appropriate for third graders (or very advanced readers in a second-grade class at the end of the school year). These evaluations are verified by looking at the qualitative dimensions. Indeed, *Henry and Mudge* and *Fire Cat* both have straightforward plots that are similar to those of many of the cartoons and/or sitcoms on television that second graders might watch. *Sarah*, however, is much more than a simple recitation of facts about pioneer times or a sitcom. It requires students to use background knowledge on geographic differences (Maine and the prairie) as well as understanding the need for acceptance of a motherless family. The conclusions made after the match to benchmark books seem appropriate.

But now, the teacher needs to decide exactly with whom and how the texts will be used—the final step of the TCM process. The analysis of vocabulary/word frequency in step 1 served as a reminder of vocabulary that would be good to pre-teach in both *Henry and Mudge* (e.g., *Mudge*, *pointy*, *curly*, *milky*) and *Fire Cat* (e.g., *Pickles*, *Goodkind*, *fireman/firemen*). Because the books are so straightforward in their content, these are good books for students to do some independent and partner reading but with a follow-up in a small-group session where students read aloud a favorite page from these books.

For *Sarah: Plain and Tall*, the choices would be quite different. A third-grade teacher might choose to have students read particular chapters on their own, followed by small-group or whole-class discussions. This book has many layers of meaning, but also has language that is accessible enough to give students the chance to read chapters on their own, allowing them to develop their stamina in independent reading.

CONCLUSIONS AND RECOMMENDATIONS

Selecting appropriate text for students to read is of crucial importance. By guiding students to read text that “fits” them, which stretches their reading capabilities while not frustrating them,

teachers can promote high expectations and gratifying reading experiences for students. The CCSS have prompted a renewed examination of how teachers select text and a critical awareness of the means available to evaluate the difficulty of texts. The TCMI provides a means for ensuring that students have the right texts to read and, in the process, grow their capacity.

APPLICATION ASSIGNMENTS

In-Class Assignments

1. With a partner, review the CCSS, English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects. Write 1–2 paragraphs summarizing your understanding of text complexity. Share your understanding with another set of partners. Reconcile your differences, and write 1–2 paragraphs reflecting the understandings of all four of you.
2. Review the CCSS, English Language Arts and Literacy Appendix B: Text Exemplars and Sample Performance Tasks. Choose a sample performance task for Stories and Poetry and Informational Text. With a partner, create a lesson plan using the sample performance task as your final evaluation.

Tutoring Assignments

1. Review the text selections listed in the CCSS, Standard 10, Texts Illustrating the Complexity, Quality, & Range of Student Reading, K–5. Choose two that are appropriate for your student.
2. Develop and teach a lesson that utilizes the texts you selected. Specify the CCSS addressed (or the standards used by your state), the objectives of the lesson, and how you plan to deliver and differentiate instruction. Use the lesson plan provided in this text.

Homework Assignments

1. Reflect upon the lesson you taught, and write 1–2 paragraphs about what went well and what you would change next time you teach this lesson. Also, discuss the following questions: Were the texts you selected appropriate for your student? Was the level of complexity what you expected or was the text too easy or too difficult for your student? If the text was too easy or too difficult, how could you adjust your instruction?
2. Examine the CCSS, Standard 10, Staying on Topic Within a Grade and Across Grades. Using the exemplar texts as a guide, select a topic or a theme and plan how you might systematically develop the knowledge base of your student. Obtain five nonfiction texts on that theme. Write a short paper including the texts, the identified topic or theme, and the objectives you plan to address. Be prepared to discuss your selections and instructional objectives in class.

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1. Common Core State Standards Initiative (2010).
2. Gray & Leary (1935).
3. Flesch (1948).
4. Kincaid, Fishburne, Rogers, & Chissom (1975).
5. Lee (1960).
6. Grisham (2010).
7. Hillenbrand (2010).
8. Smith, Stenner, Horabin, & Smith (1989).
9. Klare (1984).
10. Dale & Chall (1948).
11. Fry (1968).
12. Leech, Rayson, & Wilson (2001).
13. MacLachlan (1985).
14. Geisel (1960).
15. Austen (1813).
16. Rowling (1998).

17. Hemingway (1952).
18. Anderson, Hiebert, Scott, & Wilkinson (1985).
19. Rylant (1987).
20. Chall, Bissex, Conard, & Harris-Sharples (1996).
21. Hiebert (2011).
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23. O'Dell (1960).
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