Since the 1970s, classroom teachers and reading specialists have learned to examine the errors children make in oral reading. Their goal is to find revealing patterns that might inform instructional planning. Do three decades of research indicate that this practice is still warranted? We think it is, but for reasons very different from those originally suggested.

A brief history of miscue analysis

The idea that oral errors provide a window into how a child processes text originated with the work of Kenneth Goodman (see Allen, 1976; Brown, Goodman, & Marek, 1996; Goodman, 1969). In a key study, Goodman (1965) found that children identified words more accurately in context than in isolation. This finding led him to consider just how context aids word identification, and the result was a model of reading that proved extremely influential (Goodman, 1967).

In brief, this model suggests that identifying every letter of every word is neither desirable nor physiologically feasible. To account for the relatively brisk rates of proficient reading, Goodman (1967) suggested that a good reader forms hypotheses about words and merely samples the text to confirm them. In reading the sentence “The cowboy rode a __,” the reader might well infer that the next word is horse and merely note the initial h to confirm this prediction. If this is how the reading process actually works, Goodman reasoned, then teachers should encourage children to make such word-level predictions and use context to test them.

Teachers could also examine miscalled words for clues about how a child approaches the task of word identification. Goodman observed that three sources of cues are available to any reader: the letters within the word (graphophonic cues), the semantic content of the word’s context, and the syntax of the sentence in which the word is found. In the previous example, a child who says pony for horse would be assumed to be relying on the semantic context. Although technically an error, this substitution was thought to reflect a healthy use of the semantic cueing system by someone whose goal is to construct meaning. The child who substitutes house for horse, on the other hand, is assumed to be over-relying on the graphophonic cueing system and clearly not reading for meaning. This reasoning led Goodman to prefer the term miscue to more pejorative terms like mistake or error.

Analyzing miscues soon became a means of detecting the extent to which a child used each of the three cueing systems. Miscue analysis has taken many forms, including incidental observation during curriculum-based oral reading, categorizing responses to cloze items, pattern analysis in connection with the passages of an informal reading inventory, and extensive delineation using the Reading Miscue Inventory (Goodman & Burke, 1972). The goal has been to detect whether the three cueing systems are used in concert to identify words.

The continuing popularity of miscue analysis is abundantly clear. Commercial reading inventories encourage teachers to count the number of “semantically acceptable” errors in evaluating a child’s performance. Many methods texts explore the three cueing systems in detail. And Reading Recovery
uses a three-way Venn diagram to remind teachers of the three systems as they encourage children to “cross-check” their pronunciations of unfamiliar words. This practice suggests that these systems are of equal importance in word identification.

**Cross-currents of research**

The popularity of the Goodman model prompted numerous researchers to investigate its validity. Working independently and employing a variety of methodologies, their findings converged in a single conclusion: The model is wrong.

Goodman’s 1965 study documenting a strong context effect was replicated several times without producing such results (see Nicholson, Lilas, & Rzoska, 1988), and a design flaw in the original investigation is thought to have been to blame. More compelling still are studies in which eye cameras precisely measure the time required to identify words in context and isolation. These studies have revealed that word recognition in context does tend to be slightly faster, but the difference is extremely small and probably attributable to lexical priming, an automatic process based on learned connections among words.

Here’s an example. When you saw the word *cowboy* in the example, the word *horse* might have been unconsciously primed so that you might have pronounced it a bit more quickly. But this is a far cry from making a deliberate prediction.

Researchers acknowledge that context is important in proficient reading. The question is when and how it is used. Our best conceptualization of the reading process suggests that context is used after a word is located in memory. It helps us determine which meaning the one intended by the author. In our example, the word *horse* is unconsciously identified without resorting to context, but only through context could you know that the author intended to refer to an animal (as opposed to a clothes horse, a saw horse, or just horsing around).

For beginning and struggling readers, however, context can play an additional role. Stanovich (1980) proposed a model suggesting that poor decoders attempt to use context not only to decide among multiple meanings but also to locate a word in memory in the first place. In other words, they rely on context to compensate for weak word-recognition skills, but they soon discover that context is an unreliable crutch on which to lean.

**Implications for effective practice**

The evidence of research leads us to believe that miscue analysis can serve a useful but limited role in reading assessment. We suggest three main implications for effective practice.

First, we recommend the continued use of error totals, based on informal reading inventories and running records, for the explicit purpose of determining a student’s instructional and independent reading levels. This use allows teachers to guide students toward appropriate text selections. Established criteria dating as far back as Betts (1946) have proved reliable for this purpose. However, we cannot recommend the use of semantically acceptable miscue tallies, which lack a foundation in research.

Second, teachers should view meaningful miscues (like substituting *pony* for *horse*) as evidence of inadequate decoding skills, and not as an end result to be fostered. Because beginning readers will attempt to compensate for weak decoding by reliance on context, teachers should instruct them in how to use the graphophonic, semantic, and syntactic cueing systems to support early reading. This often takes the form of teacher feedback. When a child struggles to read a word, the teacher responds with prompts such as “What’s the first sound?” “Is there a part of the word you know?” “You said ___. Does that make sense?” We have placed the context prompt last for a reason—it should be the child’s last resort, not the first. “A major failing” of instruction that places the three cueing systems on equal footing is that it ignores the fact that one of the systems “is more central and important” than the others (Rayner & Pollatsek, 1989, p. 351).

Third, miscue analysis provides a look at a child’s relative use of graphophonic and contextual cues. Teachers should study miscues to monitor their students’ progress toward relying more and more on decoding. Miscue analysis can do little, however, to identify skill needs in the area of word recognition, because those needs are not systematically assessed through oral reading and because they may be masked by reliance on context (Walpole & McKenna, 2006). Teachers have better methods of assessing decoding skill needs.
They can use a phonics inventory (e.g., McKenna & Stahl, 2003) or a developmental spelling inventory such as the Words Their Way inventory by Bear, Invernizzi, Templeton, and Johnston (2004) or the Developmental Spelling Assessment by Ganske (2000).

In summary, analyzing oral reading miscues can be beneficial, but perspectives on how it should inform instruction have changed. Ehri and McCormick (2004) suggested that one goal of instruction is to teach decoding, analogy, word prediction from context, and sight recognition as distinct strategies to identify words. Miscue analysis can help to monitor a child’s ability to apply these strategies during reading. It can also reveal whether the balance is shifting over time away from context dependency and toward automatic decoding.

McKenna is the editor of the Assessment department. He teaches at the University of Virginia. E-mail mmckenna@virginia.edu. Picard is Supervisor of Early Childhood Education for the Arlington, Virginia, Public Schools.

References