

data on students' oral reading behaviors, I also collected data on their eye movements while reading aloud. Combined, these two data sources provide a deeper understanding of what children are noticing and using while they read. Not only does such a study take us beyond surface observations of oral reading behaviors, it also provides a deeper understanding of the reading process in terms of what children are noticing and using as they read.

### LITERATURE REVIEW

Most research regarding print and pictures in early reading falls into two categories: (a) word identification and pictures and (b) comprehension and pictures. Studies involving word identification and pictures generally focus on finding out whether or not pictures are beneficial in the teaching of sight words (Samuels, 1977; Singer, 1980; Willows, 1978a; Willows, 1978b). The second set of studies involves older proficient readers reading complete illustrated texts to determine the effects of pictures on comprehension. Vernon's studies (1953, 1958) typify such research in that the focus is one of determining the effects of the treatment of including pictures in a text on reading comprehension (Holmes, 1987; Koenke, 1968, 1980; Koenke & Otto, 1969; Weintraub, 1960, 1966).

Denburg's (1976) study falls outside these two broad categories in that she examines first-grade readers' use of pictures in reading complete texts. Her study suggests that pictures have a positive influence on reading (when defined as word identification) and that beginning readers do use pictures and print together when reading; however, the study does not provide detailed information about how beginning readers use both pictures and print as they read.

During the early 1920s, Buswell (1922) conducted eye movement studies involving first-grade beginning readers. His study explored readers' eye movements relative to the texts, two methods of instruction (word analysis focused and meaning focused), and differing pathways toward a mature reading attitude. He found that while readers exhibited different eye movements related to the method of instruction experienced, these eye movements were not significant (better or worse) if considered in relation to the ultimate goal of mature reading habits.

This study extends the body of research on eye movements and reading by examining the data provided when participants read aloud. I used miscue analysis (Goodman, 1967) to collect and analyze the oral readings of participants in my study. Miscue analysis provides a window on the reading process and the knowledge and strategies that readers employ as they read.