**Rappin’ Reader: An Exploration of A Culturally Relevant Beginning Literacy Computer-Based Learning Environment**

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**INTRODUCTION**

That differences exist in the lived literacy experiences of African and European American children is not new. Reading researchers have consistently found that African and European American children differ in story telling style (Michaels 1984), knowledge of print conventions (Thonis 1989), oral language (Labov 1972; Smithetman 1977) and question asking style (Hale 1986; Heath 1983). While research uncovering literacy difference abounds, research focused on addressing these differences inside classroom doors is not as plentiful (Galga, Shockley & Pellegrini 1995; Lee 1995).

This lack of research has fostered the creation of instructional strategies and materials that do not adequately reflect the experiences, strategies and knowledge of minority children. As a consequence, many of these children are left feeling disconnected from the instructional practices used in the classroom which often results in these children being classified as uninterested in learning or too lazy to apply themselves. In reality, many of the children are not uninterested or lazy but unmotivated because of the failure of researchers, textbook makers and teachers to make instruction relevant to children.

This article describes a computer-based learning environment, *Rappin’ Reader*, designed to use the lived literacy experiences African American children bring to classrooms as scaffolds for beginning literacy instruction. This study seeks to address some of the literacy difficulties of low SES African American children by (a) investigating the benefits of using culturally relevant reading material and (b) inquiring whether a computer-based learning environment can provide effective beginning literacy instruction. The study reports the results of using *Rappin’ Reader* with low SES African American children students attending two after school tutoring/mentoring programs.
RELEVANT BACKGROUND RESEARCH

It is important to understand this study in the context of prior research on culturally relevant instruction and research on the relationship between oral and written language.

Culturally Relevant Pedagogy

Studies have shown that when students’ home language is devalued within the classroom doors, students’ ability to learn to read and write is negatively affected (Cazden 1988; Delpit 1988, 1990; Heath 1983; Lee 1995). Such results have led researcher, who view the world through a sociocultural lens, to rethink how students are taught to read and write. Proponents of sociocultural theory view society and culture as mediators through which children make sense of the world (Cole 1996; Rogoff & Lave 1984). The theoretical underpinning of the culturally relevant pedagogy model (Irvine 1990; King 1990; Ladson-Billings 1992; Lee 1992,1995; Shujaa 1994) is that learning is most efficient when students are able to draw upon knowledge of concepts, procedures, and strategies they know well to construct for themselves a mental representation of new concepts, procedures and strategies.

Researchers (Ball 1992, 1995; Lee 1992, 1995) have developed culturally relevant instruction which builds upon the lived literacy experiences that African American children bring into classrooms. Both have shown how the lived literacy experiences of African American children, in the secondary grades, can be used as scaffolds in literacy instruction. The goal of this article is to explore how a culturally relevant pedagogy perspective can be applied to improving beginning literacy instruction for elementary age African American children.

Relationship between Oral and Written Language

In order to build instruction around the lived literacy experiences of African American, an understanding of the literacy experiences these children bring to classroom must be developed. Not all children enter school having been extensively read to at home. Nor do all children come to school understanding the importance of learning to read. However, all children enter school with an oral language.

When most children enter elementary school they are already masters of oral language. They are able to communicate with their parents, teachers and friends. When children are hungry they know how to ask for food. When they want a toy they know how
to convince their parents to buy it for them. In essence, most children can use oral language to achieve their desired goals. The goal of early reading instruction is to extend children’s mastery of language to include the ability to dedode written texts. Teachers and parents want children to function as effectively with written language as they do with oral language. For example, teachers and parents want children to be able to read the menu at a restaurant and to read their favorite book. Since most children enter school with a foundation in oral language, one of the challenging questions that fact today’s educators is how can we use children’s oral language be used to build their written language?

As figure 1 shows, there is an overlap between the skills and knowledge needed to engage successfully in oral and written language. Given the overlap in necessary skills, one would hypothesize that children would easily learn to read. However, an obstacle exists in making the connection between oral and written language; realizing that every spoken word can be represented by a series of symbols; understanding that a printed sentence corresponds to a spoken sentence; and understanding that printed words are delineated by spaces, whereas spoken words occur in a continuous stream of speech (Adams 1990). As children learn to read and spell, they acquire a visual representational system that allows them to see what they say and hear (Barr, Sadow & Blachowicz 1990). Thus, learning to read not only involves learning about the nature of printed words, but also discovering how oral language may be segmented into units that correspond to these words.

**Knowledge Components**

As stated earlier, a hypothesis of this investigation is that understanding the meaning and usage of words through oral language should make easier the task of learning to read words. This hypothesis is based on Seidenberg and McClelland’s (1989) model of how readers read and learn to read words. According to Seidenberg and McClelland, there are four types of knowledge needed about any given word in our written language:

<table>
<thead>
<tr>
<th>Component</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td><strong>Context</strong></td>
<td>The context of familiar stories enables children to make predictions of future actions and speech of characters. Children are also able to predict the words are going to appear on the page.</td>
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</tbody>
</table>
For example, when children are trying to master the word "bus", they know the word is likely to appear in stories about school, taking a trip to a distant city, or traveling around the city.

### Meaning
Knowing the meaning of a word is also essential for children to understand what they are hearing or reading. Since many words have multiple meanings, the context in which the word appears helps children determine the appropriate meaning. For example, when children read a story with the word "bus", they need to determine what type of bus is being described. Thus, when reading or hearing a story about school, they are likely to think about a school bus.

### Pronunciation
Children need to be able to pronounce a word. Pronouncing a word does not have to take place out loud. Children who cannot read are only able to access the meaning of a word through its pronunciation.

### Orthography
Orthographic knowledge, i.e. textual representation, is the component that distinguishes readers from non-readers. The acquisition of a word’s orthographic knowledge is a major goal of beginning reading instruction.

<table>
<thead>
<tr>
<th>Table 1: Definitions of Knowledge Components</th>
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| Building on the work of Seidenberg and McClelland, the next question that needs to be addressed now is how do these knowledge sources interact to form the process by which we understand and use language? Researchers debate how these knowledge components interact to enable children to understand and use language. Prevalent models include top-down (Goodman 1965, 1967) bottom-up (Gough 1972; LaBerge & Samuels 1974) and interactive (Lesgold & Perfetti 1980).

Top-down models propose that the reading process begins with the expectations in the mind of the reader who hypothesizes about the meaning of the text to be read. The reader samples the text to confirm or reject these hypotheses. Therefore reading does not require the processing of every letter or every word they encounter, but only enough of the text to allow the reader to gain an impression of its meaning.

Bottom-up models propose that the reading process begins with the recognition and decoding of letters, clusters of letters and words, with the reader processing progressively larger units of print, up to the level of the sentence, paragraph, page and finally the complete text.

Proponents of an interactive-processing model hypothesize that the reader is both a bottom-up and top-down processor. When a reader begins to read text they use both their
prior knowledge of the context of the text, and the textual clues written on the page as data for reading the text.

**Example of Interactive Processing Model**

The connections between words that the child develops upon hearing a song are not isolated to just oral language. If a child reads lyrics she has heard multiple times she is prepared to read the same words. Besides limiting the number of word possibilities, context helps children decide the appropriate meaning of words that have multiple meanings. The context, word pronunciation, and word meanings join to create children’s understanding of the word. Upon hearing a song over and over, the child starts to develop connections between the words heard in the song. When the child hears some of the words in the song she is prepared to predict words s/he will hear. Thus, the contextual knowledge unit signals the meaning unit, which in turn signals the phonological unit to prepare to hear certain words.

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Insert Figure 2 here

Songs are not the only forms of oral language that uses contextual knowledge to filter meanings and prime us to hear and read certain words. Everyday conversations are full of episodes where contextual knowledge is used as a filter and primer. For instance, conversations about basketball game are expected to include talk about fouls, three-point plays, the score, and baskets. These conversations are not expected to include talk about missed extra points or icing penalties. In essence, contextual knowledge is used to filter all of communication.

**How do Beginning Readers acquire Knowledge Components?**

Many beginning readers use only three of the four knowledge sources (contextual, meaning, and phonological knowledge) to understand and process language. Ability to comprehend an oral utterance is a result of the interaction between the utterance, its context, word meaning, and phonological representations of words in the utterance. To develop a written vocabulary based on an oral vocabulary, children must learn the orthographical representation of words in their oral vocabulary. Skillful word reading depends on the processing of the orthography (i.e., textual representations) of words. Skillful reading is
the product of the coordinated and highly interactive processing of all orthographical, phonological, meaning, and contextual knowledge.

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**Insert Figure 3**

Given that children’s oral language can be transformed into written vocabulary, how can the interactive processing model frame the design of beginning literacy instruction?

**Theoretical Framework**

**Rappin’ Reader**

*Rappin’ Reader* is an attempt to create a computer-based learning environment whose activities are structured by the interactive-processing model. In order for children to use their oral language as a scaffold children must read text that is contextually familiar. *Rappin’ Reader* situates the reading task in the fascinating world of rap music by having children read lyrics to familiar rap music. When using *Rappin’ Reader* a child is given the task of writing songs for of his/her favorite musical group or artist. The child’s first assignment is to serve as the artist’s or group’s junior writer. As the junior writer, the child is placed “in charge” of one of the artist’s or group's hit songs and is given tasks (find the missing words, unscrambling the songs words, writing the correct word in a phrase) that require him/her to use prior knowledge of the song’s lyrics to read and manipulate the lyrics of the song. The child is promoted to head writer after having demonstrated ability to read the words of the song. As head writer, the child writes two songs, one a parody of an existing song and a second as an audition to become a rapper for the recording studio. To help stimulate writing, the child can create illustrations for his song. After the child has written the lyrics, it is recored. The final product is a synchronized video of the child's written lyrics, sung lyrics, and illustrations. See Appendix A for screen shots of *Rappin’ Reader*.