This study involved the development of exercises for teaching the use of context clues in word recognition. Although authorities believe that context clues are best used in combination with other methods of word identification, such as phonetic analysis and word form, no hierarchy of difficulty among the many exercises for teaching context clues is known. Subsequently, to measure the degree of difficulty of six different word recognition techniques found in literature, students in grades 3-10 of 11 schools were given six different exercise forms. The results indicated that the more clues given a reader, the more easily he could identify a word. The easiest form provided phonetic and configuration clues with the context clues, while the most difficult form indicated only the omission of a word. Students, regardless of sex, intelligence, comprehension, or vocabulary and grade level, used the same clues to determine the suitable word. The exercises developed can also be used for teaching context clues in the classroom. (JM)
Teaching the Use of Context Clues

The Problem

The purpose of this study was to develop a series of exercises for teaching the use of context clues in word recognition. Used along with phonetic and structural analysis, context clues provide one of the best means for achieving the recognition of a word. Finding that unlocking of a previously unknown word makes sense in context, provides a check as to the pronunciation of the word. Although context clues can also be used for determining the meaning of a word, the concern of this study was the use of context clues as a word recognition device. As Miles A. Tinker states, "Context clues are derived from the meanings of those words in the sentence already known to the child. These meanings are used to obtain the pronunciation of the one or two new words in the sentence."1

Authorities such as Nila B. Smith, Arthur W. Heilman, Emmet A. Betts, Homer Carter, and Dorothy McGinnis, and many others agree to the importance of context clues in identifying words. William S. Gray said, "Context clues are perhaps the most important single aid to word perception." 6

Not only is there wide acceptance of the importance of context clues, but there is also wide acceptance of the value of teaching their use. For example, Miles Tinker and Constance McCullough write, "Few children will be able to make all the use they might of these clues without such training."7 Smith believes context clues require "... more than incidental attention if children learn to make the most of this skill."8 And Kathleen Hester agrees: "Systematic guidance is necessary to help him (the child) to learn this important technique for recognizing words."9

In spite of the importance of context clues in word recognition and the need for explicitly guiding children in their use, little research has been conducted in this area. Smith states "Not many studies have been made in regard to children's use of context clues as a word identification technique."10 McCullough makes this point dramatically when she states that the process of using context clues still remains "an area of considerable ignorance among us."11 Nevertheless, a few studies have

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10. Smith, loc. cit., p. 182.
been conducted. McCullough has identified four types of clues which aid in the recognition of words as being experience, comparison or contrast, familiar expression, and definition. Paul McKee found that the average child in fourth grade can use context clues to identify the meaning of an unrecognized word. Houghton Mifflin, elementary teachers, teachers for helping children develop this skill. Tinker and McCullough state that context clues should be used separately to unlock unknown words, and the teacher does well to prepare exercises that utilize at least two word-recognition techniques simultaneously.

Many exercises combine context clues with other word attack skills. However, no hierarchy of difficulty among the various forms was found. This is an important gap in our knowledge since it is almost always desirable to start with easy exercises and proceed with continually more difficult ones. It has been difficult, therefore, to develop a systematic, sequential program for teaching context clues.

The Testing Situation

Because of this need the participants devised six exercises to determine the relative difficulty of six different techniques found in the literature. To assure compatibility among the exercises, revisions of various forms of the already standardized test, Gates Reading Survey, were used. In Form I, the key word was omitted and a correct response was to be chosen from four choices supplied. In Form II, the beginning and ending letter of each word was given with the others omitted. In Form III, just the beginning letter was given. In Form IV, only the vowels were omitted from the key words. In Form V, the complete word was omitted and the line for each missing word was the same length. In Form VI, the entire word was omitted, but the length of the line was determined by the length of the word.

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15 Tinker and McCullough, loc. cit., p. 150.
16 Robert Karlin goes so far as to say that "context clues should not be used separately to unlock unknown words, and the teacher does well to prepare exercises that utilize at least two word-recognition techniques simultaneously."
17 McCullough has identified other methods of word recognition..."
Various exercises teach the use of context clues in word recognition somewhat indirectly. Instead of varying the context in helping to recognize a word, the exercises vary the amount of configuration and phonic clues provided. The exercises require the child to search his listening-speaking vocabularies to find the word that is suitable for the context and, also, consistent with other word attack clues including phonics and word form. The thinking is that meeting success in this fashion will prepare the reader to use a similar approach with an unknown word.

The Findings

These exercises were administered in eleven schools by the twenty-one participating teachers. The schools included a parochial school and a college campus training school, as well as nine public schools. The tests were given in all grades from three to ten. There was a range of from 50 to 150 pupils in each grade. A total of 781 subjects were given all six forms of the test. The order of administration for the tests was altered so that not all would take the tests in the same order in case any learning would occur from one or more of the tests. All of the tests were administered by participating teachers or under the supervision of a participating teacher.

The tests were partially scored at a meeting of the teachers to determine what answers were acceptable. Responses were considered correct if they made sense in light of the context, even though they might be misspelled or have an incorrectly inflected ending, or have an incorrect verb tense except where letters or words given limited the response. In the case of Form IV, an answer was considered correct if fifty percent or more of the vowels were correct. Individual participating teachers then scored each test, computed raw scores, and determined the rank of the six tests for each subject. After this, the frequency of each rank for the forms of the tests was computed for the entire group. The frequency of the ranks were compared using the Chi Square Test.

The Findings

The results showed, all significant at the .001 level, that:

1. Form IV, consonants given, was easier than Forms I, II, III, V, VI.
2. Form I, four word choices given, was easier than Forms II, III, V, VI.
3. Form II, beginning and ending letters given, was easier than Forms III, V, VI.
4. Form VI, length of word given, was easier than Forms III, V.
5. Form III, beginning letter given, was easier than Form V.
6. Form V, no clue given, was the most difficult.

It is interesting to note that Form III, with only the initial letter given, is the second most difficult type of exercise. This type is one of the most frequently mentioned exercises found in the literature. The importance of this study is verified since it shows a need for identifying easier exercises.

The results indicate that, in general, the more clues a reader has the easier it is to unlock an unknown word. In Form IV, where only the vowels were omitted, the subject was given phonetic and configuration clues, as well as context clues, to aid him in determining the correct response. This proved to be the easiest form of the test. On the other hand, Form V, which was the most difficult form of the test, provided the subject with no clues at all other than context. Furthermore, in Form V, a number of responses made sense in context, and were correct which bears out
the hypotheses that context clues must be used in conjunction with other word attack techniques if the appropriate response is to be made.

Analyzing the other forms of the test to determine the relationship between the number of clues given and the relative difficulty of the task showed a positive relationship in most cases. In Form I (in which the subject was given multiple choices to complete the items) phonetic and configuration clues, and possibly some structural analysis clues were available to help the subject make the correct responses. However, the limitations of the subject's own vocabulary may have prevented him from making the correct response in some cases. Even though he may have been able to sound out all of the words, if he did not know the meaning of any of them, the clues would not be helpful. Nevertheless, Forms I and IV did supply more clues than any of the other forms and would certainly seem to indicate that the teaching of the use of context clues would be most effective if additional word attack clues were included.

Form II included phonetic clues with the beginning and ending letters given and with a rank of third easiest fits into the pattern described—fewer clues make word attack more difficult. Then the rank of Form III, with only the initial letter given, and Form V, with no clues other than context, continue in the same pattern.

The rank of Form VI indicated that the length of the line would give more of a clue than giving the initial letter, as in Form III. However, in scoring, no notice was taken as to whether the response was short on a short line, or long on a long line as long as the sentence made sense.

What difference does sex, intelligence, comprehension, vocabulary, and grade level make in the rank of difficulty of the tests? Did IQ score make a difference as to which test was easier? To discover the answer to these questions, the pupils' test scores were compared in respect to various demographic variables. Table I shows the results obtained by this analysis.

Table I
Summary Chart of Findings Pertaining to Democratic Data and Difficulty in Context Clue Aids

<table>
<thead>
<tr>
<th>Demographic Data</th>
<th>Spearman Rank Correlation Coefficient</th>
<th>Kendall Coefficient of Concordance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>1.0</td>
<td>.01</td>
</tr>
<tr>
<td>Intelligence Quotient</td>
<td>1.0</td>
<td>.01</td>
</tr>
<tr>
<td>Comprehension Level</td>
<td>117.5</td>
<td>.05</td>
</tr>
<tr>
<td>Vocabulary Level</td>
<td>153.5</td>
<td>.01</td>
</tr>
<tr>
<td>Grade Level</td>
<td>149.5</td>
<td>.01</td>
</tr>
</tbody>
</table>

These data showed that readers regardless of sex, intelligence, comprehension, vocabulary, and grade level use the same clues in unlocking words. The same sequence of difficulty in exercises could, therefore, be used for all children in respect to the various variables studied.

This study demonstrated not one, but two, important conclusions. The first showed that a group of practitioners could plan and execute an experiment which had highly statistically significant and important findings. The second showed that it was possible to identify an hierarchy of easy to difficult exercises for orienting the child towards the use of context clues. These exercises can be put to practical use for teaching context clues in the classroom.

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