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ABSTRACT

A study examined the relationship between types of miscues made by readers during oral reading and the errors made by the same readers on a cloze task. Subjects were 79 third and 78 fifth grade students in eight intact classrooms. Both the oral reading miscues and the cloze replacements were categorized using a modification of Y. Goodman's miscue analysis system. The cloze tests were prepared by leaving the introductory sentence of a passage complete and thereafter deleting every fifth word. The reading passages were grade appropriate and selected from naturally occurring instructional materials. Each subject was tested in two sessions, with both the cloze test and a standardized reading test administered in the classroom setting. The oral reading sample was collected during an individual session with each subject. Results indicated that there were clearly some strong similarities between information yielded by a miscue analysis and a relatively indepth exploration of the types of responses made on a cloze task. In general terms, oral reading accuracy was closely related to success in completing the cloze tasks. The two classification systems, however, frequently produced disparate reading level estimates for individuals within the sample. (FL)

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The Relationship Between Oral Reading Miscues and Category of Replacement Errors of Cloze Passages

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Skilled reading is commonly characterized as an active construction of meaning. Comprehension is viewed, in part, as the result of the effective selection, application, and monitoring of strategies. Goodman and his colleagues have argued that analysis of oral reading miscues can provide insight into the comprehension strategies employed by readers (Goodman, 1969; Goodman & Gollasch, 1980; Y. Goodman & Burke, 1972). The fundamental assumption underlying miscue analysis is that oral and silent reading are sufficiently similar to warrant inferences from oral reading behavior to silent reading competence. The assumption contains three related arguments: (1) miscues made during oral reading are representative of the miscues the reader would make during silent reading, (2) the analysis of miscues will reveal the sorts of strategies the reader is employing, since the source of the error or its characteristics are examined to infer what aspects of text are sampled, what sorts of substitutions the reader will leave stand, and what sorts of miscues are corrected, and (3) oral reading miscues reflect readers' attempts to construct meaning.

Critics have provided both theoretical and methodological challenges to Goodman on these, and other counts (Cambourne, 1976; Groff, 1980; Leu, 1982; Mosenthal, 1976). Only recently have investigators systematically explored the relationships between oral and silent reading competence by comparing children's performance on oral reading tasks with their performance on comprehension tasks (Beebe, 1980; Carey, 1978; Englert & Semmel, 1981; Juel & Holmes, 1981). The conflicting findings of these studies may largely be attributed to differing methodologies and objectives. In general, these studies have set out to ascertain whether there is a global relationship between oral reading miscues and some measure of comprehension.

A cloze test was employed as the silent reading measure in the present study for several reasons. First, the cloze has been found to correlate with standardized reading tests (Rankin, 1959) and with specific tests of reading,

comprehension (Taylor, 1957). Therefore, it is commonly used as a measure of comprehension in empirical research. In addition, Englert and Semmel (1981) report that specific miscues were relatively poor predictors of comprehension. They suggest that comprehension may rely on other processes such as "children's ability to organize intrasentence material into syntactically meaningful groupings and the ability to organize intra- and intersentence information into hierarchically-related arrangements" (p. 279). It has typically been assumed that cloze passages tap such inter- and intrasentential abilities--although this assumption has just recently been challenged (Shanahan, Kamil & Tobin, 1982). Finally, comparison of readers' substitutions and replacements on two commonly used assessment instruments should allow relatively direct evaluation of the similarity of strategy use under two conditions--one oral and one silent.

The purpose of the present study was to examine the relationship between types of miscues made by a reader during oral reading and the "errors" made by that same reader on a cloze task.

In this study, both oral reading miscues and cloze replacements were categorized using a modification of Goodman's miscue analysis system. If miscue analysis illuminates the kinds of strategies employed by readers to achieve silent reading comprehension, then one would expect to find the same types of errors among the replacement words supplied by these readers on a cloze task.

Method

Subjects

The subjects were 79 third and 78 fifth grade students. They represented all the children from eight intact classrooms in a suburban midwest university town.

Materials

The cloze materials were constructed using grade appropriate passages from the Silvaroli Classroom Reading Inventory. The cloze tests were prepared by leaving the introductory sentence intact and thereafter deleting every fifth word.

Each cloze passage contained 13 empty slots and concluded with an intact sentence or two.

The oral reading passages were also grade appropriate, selected from naturally occurring instructional materials (Fry, 1968). The third and fifth grade texts contained 174 and 170 words respectively. All passages--both cloze and oral reading--were expository texts.

Procedures

Each subject was tested in two separate sessions. Both the cloze test and the Gates-MacGinitie Reading Test, Level C or D (1978), were administered in the child's regular classroom in a large-group session. The oral reading sample was collected during an individual session with each child.

Scoring Procedures: Cloze. Cloze passages were scored in several ways. First, all responses were scored for exact replacements. The number of these correct replacements is typically tallied and then converted to a percentage of total correct. Such percentages served as one scoring method.

Occasionally, researchers have varied the scoring procedure (Alderson, 1979; Legenze & Elijah, 1979). These alternative scoring procedures have generally been used to collect diagnostic information, or, for purposes of examining the construct validity of cloze tests. However, there appears to have been no theoretical rationale for proposing any given scoring system.

Using Goodman's theory-based system of coding "errors," student responses to the cloze passage were coded into one of six categories (See Figure 1):

Insert Figure 1 about here

Scoring Procedures: Oral Reading. The oral reading samples were, of course, also scored in a manner consistent with Goodman's miscue analysis. Originally, 19 categories of reading miscue were coded, although not all will be

discussed here. Interscorer reliability was computed for two decision points. Agreement on the number of observed miscues was .87, while agreement on the assignment of observed miscue to category was .95.

Six relationships between possible cloze replacements and oral reading miscues will be discussed here:

(1) the relationship between no responses on the cloze passage (blank) and omission in oral reading

(2) the relationship between totally unacceptable cloze replacements (both syntactically and semantically unacceptable) and similar substitution miscues in oral reading

(3) the relationship between syntactically acceptable, but semantically unacceptable cloze substitutions and the same category of oral reading miscue

(4) the relationship between semantically acceptable, but syntactically unacceptable replacements in cloze and the same category of oral reading miscue

(5) the relationship between cloze replacements that were both syntactically and semantically appropriate and oral reading substitutions of the same type

(6) the relationship between oral reading accuracy and cloze responses that were exactly correct.

Thus, the only type of uncorrected miscue not examined was the category of "insertions," which accounted for only 11% and 9% of total miscues made by third and fifth graders respectively.

Results

Table 1 presents the means and the standard deviations of the frequencies for cloze and oral reading scores of each type (See Table 1).

Insert Table 1 about here

Because the frequencies of response type were skewed, categorical variables were generated for both the cloze and oral reading miscues. In addition, the skewed distribution of responses would render correlations meaningless. Therefore chi squares and Kendall Tau-B statistics were used to compare the response types.

The first of these analyses involved accuracy scores. Traditional percentages for determining frustrational, instructional, and independent reading levels were used to generate the cutting points to examine the relationship between cloze performance and oral reading performance, in general (See Table 2).

Insert Table 2 about here

Table 2 shows the distribution of readers across the three levels for the two measures (cloze and oral reading accuracy). For both third and fifth grade subjects, there was a strong, significant relationship between the two measures of reading performance [third: $x^2(4)=18.74$, $p < .001$; fifth: $x^2(4)=20.32$, $p < .0005$].

For each of the five remaining cloze and oral reading scores, four categories were generated. These categories roughly paralleled the 25th, 50th, and 75th percentiles of subject responses. Because this categorization resulted in different categories for third and fifth grade, and because the subjects in each grade read different passages, I will report only the data from the fifth grade. With one exception, the results were similar for the third grade.

Significant, positive relationships were attained for two of the five remaining types of response. For the type, totally unacceptable response, there was a strong, significant relationship ($x^2=28.91$, $p=.0001$) (See Table 3). As you

Insert Table 3 about here

can see in Table 3, readers who filled the cloze blanks with words that were syntactically and semantically unacceptable were significantly more likely to leave nonsensical substitution miscues uncorrected in oral reading.

The other strong positive relationship was obtained for substitutions and replacements that were semantically acceptable, but syntactically unacceptable ($x^2=3.59$, $p < .02$) (See Table 4).

Insert Table 4 about here

Readers who focused on meaning, but not syntax, did so in both cloze replacements and in oral reading substitution miscues. However, as you can see, this response type was used infrequently by subjects in both settings. Such miscues represented only 2% of all substitution errors made by fifth grade subjects and only 1% of all miscues made by these subjects. Semantically acceptable, syntactically unacceptable replacements accounted for 6% of the total responses made by fifth grade subjects on the cloze passage. Thus, while this pattern of response may be expected of some readers across reading tasks, such responses are infrequent.

A pattern of strong and positive relationships has emerged between readers' overall cloze performance and oral reading accuracy, between readers' willingness to use "junk" to fill cloze slots and their use of similar substitutions in oral reading; and between readers' use of meaning, but not syntax, as a strategy across tasks.

However, analysis of the relationship between substitutions and replacements in the remaining response types is less straightforward. Chi square comparisons of oral reading substitutions and cloze replacements that were both syntactically and semantically acceptable revealed a significant, but negative, relationship ($x^2=14.52$, $p=.02$) (See Table 5).

Insert Table 5 about here

As you can see, readers who made few such miscues in oral reading were most likely to make a relatively large number of cloze replacements of this sort. Similarly, readers who made relatively more oral reading syntactically and semantically acceptable miscues were much less likely to make such replacements on the cloze passage. Since it seemed entirely possible that such a pattern of performance could be accounted for by reader ability, additional examination of the data was undertaken. It might be expected that good readers made fewer miscues of any sort and would, therefore, have much lower frequency scores in this category (or any miscue category for that matter). In addition, these same "good" readers might be expected to replace cloze blanks with better choices than less-skilled readers. That is, even if they did not achieve verbatim replacement, their responses should reflect a better understanding of both the syntax and the meaning of the passage.

In the next table, the frequencies have been distributed across reader ability (See Table 6).

Insert Table 6 about here

The children were divided into four groups based upon their reading proficiency as measured by the Gates-MacGinitie Reading Tests. The four groups were formed using the 25th, 50th, and 75th percentiles of the Gates total score as cutting points. Using this criterion, roughly equal groups of good readers, high middle readers, low middle readers, and poor readers were formed within each of the two grades. As you can see in Table 6, it is indeed the case that good readers account for most of the distribution in the cell, "few oral reading miscues, but many cloze 'errors'." Of those subjects with zero or one oral reading miscue and five to seven appropriate cloze replacements, 13/17 are Good or HiMid readers (77%). It is also the case that less-skilled readers account for the largest number of readers in the cell, "many oral reading miscues, but few cloze

'errors'." Of those subjects with from two to eight miscues and zero or one appropriate cloze replacements, 100% are low or low-mid readers. This result is consistent with McKenna's (1976) finding that, "better readers do tend to score slightly higher in relation to poorer readers when synonyms are counted" (p. 143).

Neither of the relationships between the remaining category pairs, (1) oral reading omissions and blank replacements and, (2) syntactically acceptable, but semantically unacceptable substitutions and replacements was significant ($p > .10$ for both grades on both measures).

Discussion

In summary, there are clearly some strong similarities between information yielded by a miscue analysis and a relatively in-depth exploration of the types of responses made by the same subjects on a cloze passage. In general terms, oral reading accuracy is closely linked to success in completing a cloze task (and both, incidently, are highly correlated with the Gates-MacGinitie total score). This is obviously not surprising. It should be noted, however, that the two classification systems frequently yielded disparate reading level estimations for individuals within the sample.

As noted earlier, those readers who were extremely accurate oral readers, but who were successful at replacing the exact cloze word, account for the negative, but significant relationship obtained on the class of substitution/replacements errors called semantically and syntactically appropriate. Clearly, miscue analysis did not reveal a pattern of acceptable responses for good readers since they made relatively few such errors (although they might appear as these readers read more difficult material). In fact, miscue analysis alone would have predicted that the less-skilled readers would make appropriate cloze replacements. If such fully acceptable miscues reflect readers' strengths and attempts to comprehend text, it is not clear why these less-skilled readers would not be able

to predict and provide similar replacements on a cloze passage.

The other two significant relationships shed some additional light on the behavior of less-skilled readers and provide some support for Goodman's assertion that analysis of miscues seems to illuminate the strategies employed by certain readers. Those subjects in this study whose miscues were characterized by nonsensical substitutions were also likely to supply nonsensical replacements on a cloze task. Even when these readers had unlimited time to interact with text and opportunity to monitor their replacements by reading back and forth (as they did on the cloze task), they apparently did not. These readers appear to have been content to replace missing words with nonsensical ones.

This is especially interesting since there was no significant relationship between omissions in oral reading and slots left blank on the cloze task. If the less-skilled readers had simply found the cloze task impossibly difficult, they might have chosen to leave spaces blank. Instead, these less-skilled readers were more likely to put something in the blank--an apparent support for the notion that such readers believe that the goal of reading is to "say" the words (Paris & Myers, 1981; Ryan, in press). Good readers, on the other hand, occasionally left spaces blank on the cloze passage, but rarely omitted words or affixes in oral reading (although perhaps they did not need to).

Goodman and Gollasch (1980) have recently argued that there are two types of word level omissions: deliberate and non-deliberate. We attempted to classify omissions with this in mind, even though Goodman and Gollasch acknowledge that, "...it is never possible to know certainly (unless the reader overtly says so) whether an omission is deliberate or not..." (p. 16). In fact, we coded this category very conservatively, only counting an omission as deliberate if there were a clear remark from the reader, an obvious pause, or an aborted attempt to sound out the word. Intuitively, we believe that certain readers had decided at a given point in reading to simply skip words (deliberately omit them) in order to

keep the flow of oral reading smooth. These readers may have had a large number of deliberate omissions, but they would not be reflected in our data because they would not meet the criteria for scoring that we had established. With this rigorous standard for scoring deliberate omissions, a very tiny portion of all miscues (and even of all omissions) were coded in this category. Among fifth grade subjects, only 3% of all omissions were coded as deliberate (less than 1% of total miscues). Among third grade subjects, the percentage was higher--almost 20% of all omissions were coded as deliberate (7% of total miscues). However, two subjects accounted to fully 50% of these miscues. Therefore, a direct test of the relationship between deliberate omissions and cloze blanks was not undertaken. It seems likely that a test of the relationship between deliberate oral reading omissions and failure to complete a cloze task (a relatively certain deliberate action) would be positive.

In conclusion, oral reading miscues seem to reflect certain strategic behaviors employed by readers during silent reading comprehension as measured by a cloze test. This provides partial support for the first and second of three arguments presented at the beginning of this presentation: that miscues made during oral reading are representative of the miscues the reader would make during silent reading. However, the failure to find consistent, positive,, significant relationships between all categories belies a strong version of this argument--that oral reading miscues reflect readers' attempts to construct meaning. Indeed, the data from this study suggest that oral reading miscues reflect the failure of a reader to construct meaning (recall the findings from totally acceptable replacements and substitutions and those for the category of totally unacceptable replacements and substitutions).

These conclusions should be viewed as tentative until a study of a more complete design--including passages of increasing and decreasing difficulty--can be administered to determine whether similar patterns of behavior hold across

texts. This is particularly critical since there is some evidence to suggest that readers do make both quantitatively and qualitatively different miscues depending on text difficulty (Hutson & Niles, 1981; Kavale, 1980).

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1 = Blank (No Response)

2 = Incorrect Response (Both Syntactically and Semantically Unacceptable)

3 = Syntactically Appropriate Only Response

4 = Semantically Appropriate Only Response

5 = Syntactically and Semantically Appropriate Response

6 = Correct Response (Target Word)

Figure 1. Response Types for Cloze Replacements

Table 1

Mean Frequencies of Six Cloze Replacement Types and Six Types of Oral Reading Response by Third and Fifth Grades

	Grade			
	Third		Fifth	
Cloze Replacements				
	M	S.D.	M	S.D.
Blank	4.46	4.21	2.57	3.56
Incorrect	1.82	2.79	2.33	2.38
Syntactically Appropriate	1.56	1.17	1.33	1.20
Semantically Appropriate	.33	.59	.80	.88
Both Appropriate	1.46	1.34	2.96	1.93
Correct	3.78	3.07	3.02	1.57
Oral Reading Miscues				
Omission	4.52	11.94	2.67	3.21
Totally Inappropriate	4.06	7.62	3.46	3.60
Syntactically Appropriate	1.54	2.70	.94	1.75
Semantically Appropriate	.44	.74	.14	.42
Both Appropriate	.54	.86	1.13	1.40
Accuracy (%)	.93	.09	.95	.05

Table 2

Distribution of Fifth Grade Readers Across Three Reading Levels for Scores of Cloze and Oral Reading Accuracy

CLOZE

ORAL READING	Frustrational	Instructional	Independent
Frustrational n=31	30	1	0
Instructional n=40	29	11	0
Independent n=7	3	3	1

Table 3

Distribution of Fifth Grade Readers Across Performance Categories

for Response Type: Totally Unacceptable

CLOZE

ORAL READING	0[a]	1	2-3	4-11
0-1[a] n=28	12	7	7	2
2-3 n=23	3	7	11	2
4-17 n=27	4	3	5	15

[a]Number of Responses in this Category

Table 4.

Distribution of Fifth Grade Readers Across Performance Categories for Response Type: Semantically Acceptable Only.

ORAL READING	CLOZE 0[a]	CLOZE 1	CLOZE 2-3
0[a] n=69	33	26	10
1-2 n=9	2	2	5

[a]Number of REsponses in this Category

Table 5

Distribution of Fifth Grade Readers Across Four Performance Categories for Response Type: Syntactically and Semantically Acceptable

ORAL READING	CLOZE 0=1[a]	2-3	4	5-7
0[a] n=32	5	13	5	9
1 n=24	6	4	6	8
2-8 n=22	12	6	2	2

[a]Number of Responses in this Category

Table 6

Distribution of Frequencies for Syntactically and Semantically Acceptable Responses Across Reader Ability

ORAL READING	0-1[a]		2-3		4		5	
0[a] n=32	LOW	LOWMID	LOW	LOWMID	LOW	LOWMID	LOW	LOWMID
	2	0	0	5	1	0	0	2
	HIMID	HIGH	HIMID	HIGH	HIMID	HIGH	HIMID	HIGH
	2	1	3	5	3	1	1	6
1 n=24	LOW	LOWMID	LOW	LOWMID	LOW	LOWMID	LOW	LOWMID
	5	0	0	1	1	1	0	2
	HIMID	HIGH	HIMID	HIGH	HIMID	HIGH	HIMID	HIGH
	1	0	2	1	2	2	3	3
2-8 n=28	LOW	LOWMID	LOW	LOWMID	LOW	LOWMID	LOW	LOWMID
	9	3	0	5	0	1	0	1
	HIMID	HIGH	HIMID	HIGH	HIMID	HIGH	HIMID	HIGH
	0	0		0	1	0	0	1

[a]Number of Responses in this Category