

scored significantly higher on science while sixth-grade students scored higher on social studies passages. Comparison of cloze performance in the content areas has been limited to predominantly white groups. This study is designed to further explore students' performance on cloze passages in the content areas of fiction, science, and social studies.

## THE STUDY

### Subjects

The subjects in the study were sixth-grade students enrolled in a predominantly black middle school with an approximate ratio of 60 percent black and 40 percent white, in Madison County, Alabama. The school selected was representative of the population of middle schools in the geographic area of the city in which they were located. The purposive sampling technique was used to select six heterogeneous classes.

### Materials

Cloze passages in fiction, science, and social studies were taken from *The Contemporary Classroom Reading Inventory* (Rinsky & de Fossard, 1980). Cloze passages are provided in these content areas at grade levels four through nine. The Harris-Jacobson Readability Formula (Harris & Sipay, 1975) was used to establish grade level readability.

The traditional procedure of deleting every fifth word was followed. Results in the study were based on thirty blanks for each passage. The following levels and percentage criteria are established in the *Inventory*: Independent, 57+; Instruction (Definite), 45-56; Instruction (Caution) 39-44; Frustration (Below 39). Based on an 83-student sample, a correlation of .94 is reported between performance on reading passages and the corresponding cloze passages.

### Methodology

Students were tested during November, 1981 with all testing conducted by the researcher. Testing occurred in the morning from 8:30 to 9:30 a.m. on succeeding days for students being tested. Testing followed the format suggested in the *Inventory*: administering of a practice selection and administering of two selections on any one day for grades 6-9. All students were administered the fifth-grade fiction cloze passage as a practice passage.

Information from the manual for completing the passage was given to students before beginning the practice passage. Students scored their own practice selection during a brief discussion of appropriate choices. Immediately following this discussion, a cloze passage was administered. The remaining two cloze passages were administered the following day. Passage presentation was alternated to limit order of passage presentation as an effect. The administration procedure for the six classes was ABC, ACB, BAC, BCB, CAB, and CBA, with A being fiction, B, science, and C, social studies. The *Statistical Package for the Social Sciences* (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) was used for computer analysis of the data. A correlated *t* test was used to test for significance of differences between the means of the three passages.

All findings were tested for significance at the .05 level. A descriptive analysis was made of students' performance on the passages by levels established in the *Inventory*.

### Results

All three passages were completed by 154 students. The means and standard deviations on cloze scores for the three content areas were as follows: social studies ( $X=15.27$ ,  $SD=5.61$ ); science ( $X=13.04$ ,  $SD=4.98$ ); fiction ( $X=12.60$ ,  $SD=4.32$ ). Results showed there was a significant difference between social studies and science and social studies and fiction at the .001 level. No significant difference was found between science

## CLOZE PERFORMANCE OF SIXTH GRADE STUDENTS ON FICTION, SCIENCE, AND SOCIAL STUDIES

JUNE THOMAS  
Alabama A&M University

Since introduction of the cloze procedure (Taylor, 1953), it has been widely researched and discussed as a diagnostic procedure, in ascertaining readability levels, and as a teaching procedure to improve comprehension (Boyce, 1974; Boyce 1976). Jongsman (1971), surveying the research, concludes that the procedure "correlates substantially" with multiple choice and standardized measures of reading comprehension. Hicks (1979) found no differences in mean scores when testing second through sixth grades with cloze passages and an informal reading inventory while Davidson (1980) found a weak relationship between informal reading inventory and cloze performance on science and social studies passages.

Comparisons of students' performance through the cloze procedure have been conflicting as to the relative difficulty of the content areas. Dodd (1973) found eighth-grade students' scores in literature to be significantly higher than scores in science and social studies. These latter two did not differ significantly, except for the below average group whose scores in social studies were significantly lower. Cohen (1975) compared the cloze performance of seventh-grade good readers on literature, science, and social studies passages. These students performed best on social studies and poorest on literature. Davidson (1980) tested fourth- and sixth-grade students on cloze science and social studies passages. Fourth-grade students

and fiction. According to mean scores, social studies was easiest for this group.

According to percentage correct for the mean scores, the group was performing at the following levels: social studies, 51 percent, Instruction (Definite); science, 43 percent, Instruction (Caution); Fiction, 42 percent, Instruction (Caution).

Combining the two categories for instruction level, 115 students performed at independent or instruction levels in fiction. In both science and social studies, 99 students scored at these levels. Thus, according to levels for instruction, students performed best on fiction with no difference between science and social studies.

Occasional comments made by students completing the cloze passages highlighted the importance of selecting titles for cloze passages that did not create initial confusion. Students, although they had been told that no words could be pronounced for them, frequently asked that the title of the social studies passage "Mutiny" be pronounced. The title of the fiction passage "Disc" was misread as "Disco" by several students. Some students also expressed frustration with a task that was obviously new to them.

## DISCUSSION

This study provides further evidence of differential abilities in content area performance. As in previous studies, results continue to be conflicting regarding the relative difficulty of the content areas for different groups of students. The need for further testing of comprehension through cloze tests in the content areas is suggested by this study. With the *Inventory* providing reading and cloze passages in the content areas, further studies could be conducted utilizing the same reading materials. However, as noted, adjustments may need to be made to assure ready comprehension of passage titles by students completing cloze passages. Additionally, more experience with the cloze procedure before its use as a testing procedure will insure that content area difficulty, rather than the nature of the task, is being assessed. The conflicting results regarding difficulty level from comparing students' scores statistically and descriptively highlights the need to describe data in both ways.

## REFERENCES

- Boyce, M. W. A comprehensive bibliography of the cloze procedure. October, 1974, 31 p. (ERIC Document Reproduction Service No. ED 09a 830)
- Boyce, M. W. A comprehensive bibliography of the cloze procedure. Part B. September, 1976, 16 p. (ERIC Document Reproduction Service No. ED 127 580)
- Cohen, J. H. The effect of content area material on cloze test performance. *Journal of Reading*, 1975, 19, 247-250.
- Davidson, E. S. An analysis of fourth and sixth grade reader performance using cloze tests, group reading inventory, and a standardized reading test. November, 1980, 41 p. (ERIC Document Reproduction Service No. ED 195 984)
- Dodd, E. The effects of different content area materials upon the comprehension of eighth-grade students. October, 1973, 51 p. (ERIC Document Reproduction Service No. 085 670)
- Harris, A. J. & Sipay, E. R. *How to Increase Reading Ability* (6th ed.). New York: David McKay, 1975.
- Hicks, R. D. & Monroe, E. A comparison of reading achievement, current reading placement, sex, age, intelligence, informal reading inventory, and the cloze procedure. November, 1979, 13 p. (ERIC Document Reproduction Service No. ED 181 438)
- Jongsman, E. R. The cloze procedure: A survey of the research. August, 1971, 46 p. (ERIC Document Reproduction Service No. ED 050 893)
- Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., & Bent, D. H. *Statistical Package for the Social Sciences* (2nd ed.). New York: McGraw Hill, 1975.
- Rinsky, L. A. & de Fossard, E. *The Contemporary Classroom Reading Inventory*. Dubuque, Iowa: Gorsuch Scarisbrick, 1980.

Taylor, W. L. Cloze procedure: A new tool for measuring readability. *Journalism Quarterly*, 1953, 30, 413-433.