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INFUSING WRITING ACTIVITIES INTO COLLEGE READING

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This study sought to measure the effects from infusing writing components into a university reading laboratory. Together, the writing components displaced 30% of the regular reading instructional time. With this level of infusion we had four research concerns. First, we wanted to know if the writing infused group would make significant gains in reading. Second, we wanted to know how the writing-infused group fared in reading gains when compared to the other groups where reading was the sole mode of instruction. Third, we asked the writing-infused students how useful they felt the writing activities were to their reading development. Finally, we asked these students how much interest they had in each of the writing activities. Stotsky (1975, 1983) has adequately reviewed the research on reading writing relationships. From this one concludes that a definitive explanation of the impact of teaching methods and curricular activities on the joint development of reading and writing has yet to be determined. Karlin and Karlin (1984), however, urged that writing infusions should be done even though the research picture is not complete.

Method

Subjects

There were 254 subjects in this study, all of whom were enrolled in and completed a college reading course. The research took place while they were students in the course. Of this group, 61 subjects were in the writing infused reading group. Two groups from prior semesters ($n = 124$, $n = 69$) where reading was the only instructional mode served as comparison groups.

Instructional Setting

For the college reading course, students must enroll in three credit hours; however, the credit cannot be used for

graduation. The course is graded and the grade points are computed in the student's overall GPA. The course is taught in a reading laboratory setting which accommodates 20 students per class. Multiple materials are used from several sources. There is substantial heterogeneity of achievement within a class and this dictates that an individualized instructional model be used. Students attend the class for 16 weeks with three contact hours per week required.

Writing Infusion

The writing infusion consisted of three different treatments and each is described.

Written Pre-reading Organizers. Students read articles or passages and answered accompanying questions. Students were instructed that prior to reading each passage in its entirety, they should first write an organizing paragraph - they were to first write a main idea sentence. To finish the paragraph, they were to write detail sentences which related to or supported the main idea sentence which they had written. They were told to skim over the passage to pick up some details for their sentences. The length of the paragraph could vary depending on the length of the passage. The emphasis was placed on achieving confidence before reading the story so that students could successfully answer questions after having read it.

Sentence-Combining. The primary focus of this treatment was paragraph length sentence-combining using Reading for Understanding, Kits 2 and 3 (Thurstone, 1978). Exercises from this program are paragraph length with ten exercises or paragraphs included on a task card. The student reads each paragraph and selects one of four answers which accurately completes the thought of the paragraph. Since none of the answers is derived from recall of explicitly stated information, the program appears to foster inferential thinking in the reading process. There are 100 levels of task cards in each of two kits which, together, span reading difficulty levels 3.0 through 14.0.

Students were placed at appropriate levels and required to complete forty task cards which, together, spanned a difficulty gradient of 3 to 4 years. The purpose of this was to insure that students could first function in the inferential reading-thinking process along a specified difficulty gradient. For each student, 20 paragraphs were then

selected at random by the instructor from along this gradient, and the student was instructed to complete the sentence-combining activity for each of the 20 paragraphs. Essentially, the exercise requires students to condense the paragraph by combining sentences without losing the substance of the original paragraph. Students were also required to reverse the sentence order, insofar as possible, in the rewriting of the paragraph.

Written Book Reports. Students read paperbacks for enjoyment in the lab. To this was added the requirement of writing a book report on each completed paperback. The task was aimed at getting the students involved in expressive writing. The minimum length of the book report was set at 250 words.

In infusing these three treatments, 30% of the lab time was taken from other activities. With this change, no specific reading activities were eliminated. Rather, there was a general reduction in time allocated to all reading activities.

Procedures. In their respective semesters, the 254 subjects took The Nelson-Denny Reading Test, Form E (Brown, Bennett & Hanna, 1981) at the beginning of the semester and Form F as a post-test at the end of the semester. For the writing-infused group, two instructors were used, and we sought to find out if the group made substantial pre- to post-test gains. Data analysis was done first by a repeated measures ANOVA of test by instructor. A second analysis was done using ANCOVA with main effects for instructor. In comparing the writing-infusing group to the two reading-instructed groups a repeated measures ANOVA was run comparing groups by tests. Additional analyses using ANCOVA were done with main effects for group. To ascertain if the students viewed the writing activities as useful to their reading development, we constructed a survey form in which the students were asked to rate the relative usefulness of the three writing activities along with five reading activities:

Activity 1: Reading and answering activity cards from the Reading for Understanding program.

Activity 2: Reading self-selected paperbacks for enjoyment.

Activity 3: Writing pre-reading organizers.

Activity 4: Reading passages and answering accompanying questions.

Activity 5: Reading with emphasis on rate.

Activity 6: Writing book reports.

Activity 7: Writing the paragraph level sentence-combining activity from Reading for Understanding.

Activity 8: Reading to build vocabulary through exercises and dictionary use.

The students rated the relative worth of each activity by the following criteria: 5 = useful, 4 = somewhat useful, 3 = neither useful nor useless, 2 = somewhat useless, 1 = useless. The students also rated their relative degree of interest in each activity by the following criteria: 5 = interesting, 4 = somewhat interesting, 3 = neither interesting nor boring, 2 = somewhat boring, 1 = boring.

A series of "t"-tests was run to determine the relative degrees of students' perceived usefulness and interest in the eight activities.

Results

Table 1
Mean, stan. dev. and different scores for two instructors

Measure	Instructor 1 (n = 27)			Instructor 2 (n = 34)		
	\bar{X}	s. d.	diff.	\bar{X}	s. d.	diff.
Voc. pre	42.30	19.25	3.48	45.12	14.70	5.09
Voc. post	45.78	19.94		50.21	17.42	
Comp. pre	36.59	12.95	11.85	40.35	11.93	9.24
Comp. post	48.44	14.76		49.59	11.24	
Total pre	78.89	29.86	15.33	85.47	24.66	14.32
Total post	94.22	32.03		99.79	26.97	

Did the writing infused group make significant gains in reading? Table 1 reports \bar{X} , standard deviation, and difference scores for pre- and post-tests for the two instructor groups. The ANOVA which compared tests by instructors showed pre-to-post test gains to be significant in vocabulary ($DF = 1, F = 23.68, p < 0.001$), comprehension ($DF = 1, F = 85.72, p < 0.001$), and total reading achievement ($DF = 1, F = 98.95, p < 0.001$). The interaction of instructor by test revealed no significant differences on measures of vocabulary ($DF = 1, F = 0.79, p = 0.379$), comprehension ($DF = 1, F = 1.34, p = 0.252$), and total reading achievement ($DF = 1, F = 0.11, p = 0.737$). The ANCOVA which gauged main effects for instructor revealed a significant instructor effect on the measure of vocabulary ($DF = 1, F = 5.89, p < 0.018$), but not for comprehension ($DF = 1, F = 0.275, p = 0.602$) or total reading achievement ($DF = 1, F = 3.42, p = .070$). Therefore it was concluded that the writing infused group made significant gains in reading achievement and that instructor differences were not a factor.

How did the writing infused group compare in reading achievement gains to two previous semesters' groups which received only reading instruction? Table 2 reports a mean, standard deviation, and difference scores for the three groups on pre- and post-test measures. The repeated measures ANOVA which compared group to test and the ANCOVA which measured main effects for group revealed conflicting results on the measures of vocabulary and comprehension. However, results from the ANOVA ($DF = 2, F = 3.07, p < 0.048$) and the results from the ANCOVA ($DF = 2, F = 12.47, p < 0.001$) were in agreement that significant differences existed on measures of total reading achievement. Post-hoc comparisons using Tukey-B procedure showed that true group differences existed between groups 1 and 3 ($F = 3.08, p = 0.050$) but not between groups 2 and 3 on the single measure of total reading achievement. Thus, we concluded that the writing infused group did not differ significantly from one reading instructed group and showed significant, but minor differences, from the second reading instructed group.

Were the three writing activities perceived by the students to be both useful and interesting? Table 3 reports the \bar{X} and standard deviation scores for the usefulness and

Table 2
 Mean, standard deviation, and differences scores for 3 groups

Measure	Group 1 (n = 124)		Group 2 (n = 69)		Group 3 (N = 61)				
	\bar{X}	s.d.	diff.	\bar{X}	s. d.	diff.	\bar{X}	s. d.	diff.
Vocab. pre	43.14	18.16		50.28	17.82		43.87	16.76	
			2.93			3.48			4.38
Vocab. post	46.07	18.37		53.76	18.15		48.25	18.55	
Comp. pre	39.74	12.12		39.83	12.96		38.69	12.43	
			6.70			8.87			10.39
Comp. post	46.44	11.87		48.70	12.50		49.08	12.81	
Total pre	82.88	28.20		90.10	28.28		82.56	27.05	
Total post	92.51	28.03	9.63	102.45	28.04	12.35	97.33	29.20	14.77

Group 1: Reading instructed
 Group 2: Reading instructed
 Group 3: Reading instructed with writing infusion

interest ratings. The data show that the usefulness of written book reports was doubted by the students. The t-test

Table 3

Mean and standard deviation scores for student usefulness and utility ratings for the 8 activities

	<u>Usefulness</u>		<u>Interest</u>	
	X	s.d.	X	s.d.
1. Reading: RFU Kit	4.35	0.88	3.56	1.15
2. Reading: Paperbacks	4.19	0.86	4.31	0.94
3. Writing: Organizers	4.40	0.75	3.46	1.20
4. Reading: Passages/ Questions	4.35	0.74	3.63	1.05
5. Reading: Rate	4.10	1.45	3.85	1.02
6. Writing: Book Reports	3.37	1.24	2.98	1.20
7. Writing: Sentence-Comb.	4.21	1.02	3.13	1.36
8. Reading: Dict./Vocab.	4.50	1.13	3.62	1.21

comparisons among the eight activities showed that the remaining seven items were considered significantly more useful ($p = 0.001$) than written book reports. Written organizers and sentence combining were viewed as equally useful to the reading activities. On interest measures, activities 1, 2, 3, 4, 5, and 8 were considered substantially more interesting ($p = 0.020$) than writing book reports. Sentence-combining proved to be substantially less interesting ($p = 0.040$) than the five reading activities. Sentence-combining did not differ significantly from either written organizers or written book reports on interest ratings. In sum, written book reports were rated by students as being low both in perceived usefulness and interest. While sentence-combining and written organizers were viewed as tools useful for developing reading, both were rated relatively low on the student interest measure.

Discussion

Can writing be infused into the college reading program successfully? Our results show that it can. Improvement in reading was significant with writing infusions. Reading improvement was comparable to those classes where reading was the sole mode of instruction. The superiority of the writing-infused group on reading measures cannot rightfully be claimed due to the lack of a true experimental design. We believe students would continue to view writing infusions as useful if book report writing were to be eliminated. In terms of students' interest in completing written organizers and sentence-combining exercises, definite steps are needed to make these two activities more interesting.

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