College freshman composition courses are often taught on the assumption that students need little or no help in reading, with the result that reading materials are only used as models of writing. However, research such as a 1978 study at the University of Minnesota wherein freshmen scored significantly lower in reading skills than did freshmen 50 years earlier, indicates that freshmen need to study reading at the instructional level, as they do not appear to absorb it as a function of learning to write. A review of nine experiments that used sentence combining to improve writing showed that the technique failed to improve reading significantly, and three experiments that used analytical reading indicated that the method failed to improve writing. Because reading and writing are different skills, both should be taught directly, but because of their similarities, instruction in reading and writing can take place in the same course. Additional writing research shows that 18-year-old freshmen appear to develop natural capacities for writing—the number of errors they make decreases and the level of sentence complexity increases—but that they need some instruction to continue improvement. Overinstructing them in one narrow area of writing, however, seems to damage students' other writing skills. (Twenty-eight references are included.) (JC)
EVALUATED QUANTITATIVE RESEARCH FOR RELATING READING 
AND WRITING IN BEGINNING COLLEGE ENGLISH

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Some beginning college English courses are planned to teach writing 
that is narrowly correct and to use readings at what Bormuth calls the independent 
level merely as examples for writing, resulting in what Booth names "mindless 
service courses" (1981).

The fact that freshmen at the University of Minnesota scored lower in reading 
than freshmen did fifty years earlier indicates that today's freshmen need to 
study reading at what Bormuth identifies as the instructional level. Currently 
diminished instruction in reading cannot be justified on the basis of a need to 
concentrate almost entirely on teaching freshmen writing once and for all since 
longitudinal studies show that students only gradually develop capacities 
to absorb writing anyway and also that students need some instruction during 
post-freshman years as they mature psycholinguistically. No can diminished 
reading be based on the notion that direct teaching of writing automatically 
and significantly improves reading, an unsoundness that experiments imply and low correlations 
between reading and writing corroborate. On the other hand, reading and writing 
can be taught together, an evaluated demonstration reveals, for practically 
and statistically significant improvement in both.

This research implies that reading should have a substantial place in 
beginning college English.
Traditionally, beginning college English taught freshmen reading expository essays and writing expository compositions. Recently, planners of the standard first-semester of English have stressed writing compositions. While it teaches writing in an orderly, regular manner, the course often teaches reading essays only indirectly, merely to provide readily accessible models for writing compositions.

A claim for this diminished attention to reading and direct emphasis on writing is that "Reading spoils writing, and writing spoils reading." To the contrary, leaders in the profession of English assert that reading and writing are complementary halves of the whole of written discourse and that they are best learned and taught in contiguity.

Statement of the Problem

In an effort to resolve the issue, educators turn to research. The question that they ask is: What does good quantitative research suggest about the diminished role of reading in freshman English? At least partial answers to this question will be provided through consideration of four sub-questions.

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However, the question must first be clarified by stipulating definitions of teaching reading directly and teaching writing directly. Teaching reading directly means that the professor establishes a philosophy of re-creative communication; he or she suits the reading to the readers' capabilities, which Vygotsky (1962) explains are higher than those for writing and which meet the instructional level set by Bormuth (cited in Lapp & Flood, 1978, p. 586); and the professor provides activities for all steps in the process of reading, especially the concluding summarization, which requires analysis, synthesis, critical thought, creation of values, and integration of values. He or she may also use writing at the independent level by asking the freshmen to respond to the readings.

Teaching writing directly means that the professor establishes a philosophy of creative communication; he or she suits the writing to the freshmen's capacities, which Vygotsky (1962) explains are lower than those for reading and which rank between the frustrational and the independent levels; and the professor provides activities for all steps in the process of writing, especially the early invention, which requires integration of values, creation of values, critical thought, synthesis, and analysis. He or she may also use reading at an independent level by asking the freshmen to study model essays and to follow up on their compositions by doing research. Although the typical freshman course uses readings as models for writing, it is clear that reading is slighted by not being taught directly at the instructional level nor being used for further research after freshmen write their compositions.
Basic Findings

Quantitative research provides at least partial answers to four sub-questions about what happens to freshman English when planners diminish the role of reading. First, what happens to freshmen's skills in reading when planners leave instruction in reading out almost entirely? Next, where reading is diminished, do freshmen's skills in writing increase significantly? Then, is it possible to teach reading indirectly through teaching writing directly? Quantitative research provides partial answers to these questions, forming the next three sections. The fourth question appears later.

Although some planners assume that freshmen do not need instruction in reading during their first semester of standard English, there is strong indication that freshmen do need it, and there is some indication of what happens when their needs are totally unmet. The degree of the deficiency is implied by Eurich's (1980) study at the University of Minnesota. In 1978, Eurich tested reading comprehension, vocabulary, and rate of entering freshmen with the same instrument used in 1928. Freshmen of 1978 scored significantly lower, at least one grade level below the skills of freshmen entering in 1928; the freshmen of 1978 read as juniors or seniors in high school did fifty years earlier. The prevalence of the deficiency appears through a questionnaire by Lederman and others (1984) responded to by 45% of all universities in the United States. The replies showed that 80% of the responding universities offered pre-standard courses in reading.

What happens when freshmen's needs for instruction in reading are totally unmet is implied in one experiment using randomization and
control sections (Schneider, 1970). In a control section wherein no stress had been placed on instruction in reading, there occurred a loss in reading scores that was significant. In sum, good research suggests that freshmen need suitable instruction to improve their reading of beginning-academic essays.

But, it may be countered, if attention to reading is diminished temporarily, will not skills and arts in writing tend to increase significantly through professors' giving writing added attention? Not necessarily. It seems that young persons develop intellectual, emotional, and physical capacities to learn skills in writing at a fairly definite rate. Besides, not only can they be under-nourished in relation to their capacities, but also and more to the point, freshmen do not seem to profit in the long run from overly intense instruction. In fact, university students need some direct guidance throughout their higher education. Before accepting these conclusions, educators would review the following pieces of relevant quantitative research in relation to each other.

That young persons gradually develop capacities for writing longer, more complex sentences containing more advanced structures is well attested to by controlled observations of students' writing. Hunt (1977) asked students at various grade levels to rewrite a paragraph an aluminum. The average words written per independent clause rose gradually from 5.4 for fourth-grade students to 11.9 for twelfth-grade students. Beginning freshmen, according to Stewart (1978), wrote 12.25 words. Students at higher levels and trained adults wrote still longer independent clauses. Too, students wrote increasingly complex structures in this order: coordination of
subject and predicates, formation of appositives, transformation of predicate adjectives to prenominal adjectives, and change of predicates to adverbs. Freshmen probably have not mastered altering a predicate into a prepositional phrase or forming the absolute phrase (Hunt, cited in Cooper & Odell, 1977). Hunt's studies have been cross-culturally replicated with similar results. Thus, it seems highly likely that freshmen gradually develop natural capacities for writing.

Not surprisingly, there is evidence that freshmen can be educationally undernurtured in relation to their gradually developing natural capacities. In an experiment by Buxton (1958), those freshmen who received no instructional guidance wrote more poorly than those freshmen who did receive such guidance. In his highly controlled, year-long experiment with freshmen randomly assigned to three groups, the freshmen who did not write during any of their classes wrote statistically significantly less well than freshmen who wrote but did so without instruction ($p < .01$). In turn, the freshmen who wrote but did so without instruction wrote statistically significantly less well than freshmen who wrote with instruction and revision ($p < .05$). In this excellent study, freshmen were educationally undernourished.

More important, for consideration of the effects of intense instruction in writing, one turns to experiments in which heavy emphasis on sentence-combining was used to teach writing. In a post hoc analysis of an experiment by Hake and Williams (1979) in which sentence-combining was stressed, freshmen who had been pressed to combine short sentences into longer, complex ones and who did increase the length of their independent clauses markedly increased their errors and thereby damaged the quality of their writing. The
experimenters concluded that freshmen should learn sentence-combining only when they were ready to do so, that is, when their writing was relatively free of errors.

To check the effects of intensive use of sentence-combining across time, ore refers to a landmark longitudinal study carried out by Kerek, Daiker, and Morenberg (1980). These experimenters tested freshmen's writing at the end of the first semester and again twenty-eight months later at the beginning of the junior year. At the end of the first semester, freshmen in the experimental sections did write statistically significantly better than freshmen in the control sections who were taught by a traditional method. Twenty-eight months later, the null hypothesis that freshmen taught by the traditional method wrote better than the students taught by the sentence-combining method could not be rejected. Accordingly, further doubt is cast on the notion that intense, short-term concentration on writing brings long-term and measurable advantages.

Regardless of how well freshmen write at the end of their first semester or two, college students need some instructional guidance, another study suggests, till the end of their higher education. In his descriptive study of the compositions written by students at Dartmouth, Kitzhaber (1963) found that with instructional guidance first-semester freshmen reduced their errors in sentences and words from 24.5 per thousand words to 16.2. Through similar instructional guidance, second-semester freshmen reduced errors to 13.8. However, without instructional guidance during their sophomore year, students increased their average errors to what they began with as entering
freshmen, 24.4. Further, after continuing to develop capacities and needs but without guided instruction, seniors increased their errors to beyond what they began with as entering freshmen, 33.7. An overly intense stress on writing is unlikely to obviate the need for continued instruction.

On the basis of these studies, it is easy to surmise that there are right times in a student's development for the right intensity of instruction. Although undernurturing does not bring appropriate improvement, over-nurturing does not necessarily bring lasting, superior improvement.

Nonetheless educators may ask the third sub-question: Is it not possible to teach reading indirectly through teaching writing intensely and directly? Those who specialize in teaching writing directly have tried to improve reading indirectly and have recorded their efforts. Nine experimenters using sentence-combining to teach writing showed that writing was improved to statistically significant degrees. However, five experimenters reported the following results in regard to improvement of reading: Fisher (1974), in the present form, not significant; Shockley (cited in Combs, 1975, p. 30), "failed to verify a positive relation"; Combs (1975, p. 92), "somewhat ambiguous"; Straw (1978), not according to the Nelson Reading Skills Test; and Kerek, Daiker, and Morenberg (1980), not significant on a standardized reading test. Four researchers reported slightly more favorable results for reading: Hunt and O'Donnell (1970), p. 29), only for the linguistically deprived; Stedman (1971), higher level of significance for linguistically deprived; Magee (1979), for certain structures; and Ledesma (1981), tentative possibility. Although these
studies focused on one aspect of writing, sentence-combining, and often measured reading through standardized tests, it is impressive that slight or non-statistically significant results occurred for reading. Interestingly, three experimenters using analytical reading to improve writing indirectly reported the following results in regard to improvement in writing: Calhoun (1971), no evidence; M. L. Perry (1980), not significant; and Coutere (1981), success inhibited.

If teaching writing directly and intensively has not yet been shown to improve reading indirectly, why not? A group of correlational studies suggests at least a partial explanation. The following researchers report the following correlations: Kuntz (1975, cited in Heller, 1980, p. 3), a strong correlation; Thomas (cited in Tang, 1979), a significant correlation of .13 between reading and writing achievements of 222 university freshmen; S. Grobe and C. Grobe (1977), a significant correlation of .50; Euster (1979, p. 79), "a significant positive relationship between cloze [reading] test scores and writing sample outcomes"; Fairbanks and Elliott (1981), some significant relationships between scores on the Iowa Silent Reading Test and scores on two writing tests; M. L. Campbell (1976), a high relationship between reading and writing skills; and Heller (1980), at least ten elements of written language significantly related to students' reading comprehension scores.

Although the relationship between reading and writing is reliable and frequently occurs, the relationship is so low as to be unlikely to contribute much to the indirect development of one skill through the direct instruction in the other. The correlations of .13 and .25 suggest r^2's of .02 and .25, which are unlikely to be strong factors,
given precedence and otherwise controlled conditions, in causation of one skill by teaching the other skill.

If one considers both the experimental failures to teach reading indirectly through teaching writing directly and to teach writing indirectly through teaching reading directly as well as the low, though reliable, relationship between reading and writing, the conclusion is likely that although there are similarities between reading and writing, there are substantial enough differences so that each must be taught directly for statistically significant improvement in each.

The combined implications of the quantitative research in response to the three sub-questions are that both reading and writing need to be taught, to be taught with the right intensity at the right times, and to be taught directly to gain statistically significant improvement in both. But a fourth question arises.

This final question asks: Is there quantitative research that shows that both reading and writing can be taught directly, according to the definitions stipulated earlier, during first-semester English? Can all steps in reading be taught, even writing about readings, and can all steps of writing be taught from invention to publication, even reading as further incentive for writing? One example of such a study is this researcher's demonstration of a set of instructional activities planned to accomplish these goals (Battle, 1986). Both reading and writing were taught directly and indirectly, that is, interrelatedly. The freshmen improved reading, according to cloze reading samples, to practically and statistically significant degrees (p < .0001). Likewise, they improved writing, according to Buxton-
scored writing samples, to practically and statistically significant
degrees ($p < .0001$), reducing errors and improving rhetoric
significantly as well. Since both the freshmen and the instructor
observed pressure from the study load and work load respectively,
class size can be reduced and laboratory time and credit provided.
The activities otherwise won praise from students and satisfaction
from the professor.

Implications

The implications of this research are that, unlike some present
practices, reading and writing both need to be taught to meet
freshmen's needs, reading being given increased attention. Then,
since intense concentration on writing seems unlikely to have
superior, lasting results, plans should be made for continued guidance
in written discourse beyond freshman English. As neither reading nor
writing teaches the other skill indirectly and effectively, both
should be taught directly.

Quantitative research suggests this minor and joyful revolution
in freshman English to re-establish re-creative written discourse. It
is a revolution welcomed by leaders in the profession and likely to be
welcomed by freshmen. It is hoped that planners will respond
favorably by providing appropriate teaching-learning circumstances.
Then, reading can enhance writing, and writing can enhance reading.
Bibliography


