

# Effect of Paragraph Indention and Spacing on Reading Speed and Comprehension

Traditionally, newspapers and magazines have indicated paragraphing by indenting. Recent practice, especially with magazines, has used spacing between paragraphs as a substitute for indention. Which practice provides greater legibility?

Paterson and Tinker found that moderate indention improved reading speed by about 7 percent.<sup>1</sup> Tinker indicates that this was actually a test of frequency of paragraphing (30 vs. 6) or length of paragraphs<sup>2</sup>. Since test paragraphs were indented, the 7 percent reading speed advantage could only be due to the additional indentions the 30 paragraphs provided compared to the six-paragraph version. Thus paragraphing, provided via indentions, is one method of increasing legibility as measured by reading speed. Rehe says additional leading may be equally effective<sup>3</sup>. In other words, other methods that show paragraphing, i.e. break up solid blocks of type, also ought to increase reading speed.

This study tested the effectiveness of indention versus spacing, with a third version combining indention and spacing. For each of these three paragraphing versions, two 8½ x 11 pages were used: 3 columns of 13 picas each (approximating newspaper format) and 2 columns of 20 picas each (approximating magazine format).

These 6 forms of paragraphing and column width were tested on 126 University of Wisconsin-Madison undergraduates. Test pages were distributed face down and students were not aware that 6 formats were alternately distributed. To measure reading speed, students read for 1 min. 45 sec., marked the amount read, then continued until they finished the page. They were not told they would be asked questions about the material, which concerned a horticultural topic titled "Growing Eggplant." Students then answered 8 questions on subject matter, rated how interesting the article was, and stated whether they had ever grown a vegetable garden (indirect measure of experience with subject matter).

## Results

Reading speed was measured by number of lines read in the time allotted. Analysis of variance indicated no significant dif-

ferences for the three paragraphing variations of indenting, spacing, and indent plus space. Reading speed also was equal for the two column widths and there was no significant interaction between paragraph form and column width. Although Table 1 shows a difference between the 13 pica line and the 20 pica version, this is spurious because 60 lines at 13 pica width equals 41.5 lines in 20 picas width. Thus amount read is identical.

TABLE 1: Reading Speed (mean lines read in timed test)

	Indent	Space	Indent Space	Ave.
13 picas	59.95	58.43	61.86	60.08*
20 picas	44.19	39.57	41.48	41.75*
Ave.	51.86	49.00	51.67	50.92

\* 60 lines of 13 picas equals 41.5 lines of 20 picas, so 13 & 20 pica versions do not differ.

Comprehension was measured by percent correct answers on the 8 questions. Comprehension was slightly higher for the indented version than for the spacing or indent plus spacing, and slightly higher for the wider column than the narrow column. Differences are small, however, as Table 2 shows.

TABLE 2: Comprehension (mean correct answers N21 x 8 q.)

	Indent	Space	Indent Space	Ave.
13 picas	5.10	4.24	4.33	4.56
20 picas	4.71	4.95	4.90	4.85
Ave.	4.90	4.59	4.61	4.70

Interest (rate how interesting the article is on a scale of 0 - 10) results are similar (Table 3) to those for comprehension. Mean scores were slightly higher for indenting than for spacing or indent plus space, and slightly higher for the wider column than the narrow. But analysis of variance showed no significance for the paragraphing versions nor for the column widths, nor for the interaction of the two.

TABLE 3: Interest (mean rating on scale of 0 - 10)

	Indent	Space	Indent Space	Ave.
13 picas	3.19	2.52	2.67	2.79
20 picas	3.24	3.00	2.85	3.03
Ave.	3.21	2.75	2.75	2.91

### Discussion

With no differences in reading speed and only slight differences in comprehension and interest, I conclude that the three paragraph forms do not differ significantly in legibility. Therefore the choice of which to use can be made on grounds of space available or on esthetic appeal.

### Notes

- <sup>1</sup> Paterson, D.G. & M.A. Tinker. *How to Make Type Readable*. New York: Harper & Brothers, Publishing. 1940.
- <sup>2</sup> M.A. Tinker. *Legibility of Print*. Iowa State Univ. Press. Ames, Iowa. 1963.
- <sup>3</sup> Rolf Rehe. *Proposals for a Functional Typography*. Indiana Univ. 1972.

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