

EMPIRICAL AND PERCEIVED UTILITY OF TEXT BOXES

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This paper presents 2 studies that investigated the utility of text-book boxes. In the first study, 230 participants completed a perception questionnaire. The major finding was that professors and students rarely studied boxed text. In the second study, 177 participants read identical text with an insert that instructed them to stop reading and record the time. The insert appeared as boxed text for some and as regular text for others. There were no significant differences in hit rates or latency among the boxed and regular text groups. Taken as a whole, participants reported ignoring boxed text, but in reality skimmed both boxed and regular text. We recommend that instructors emphasize important text regardless of its location.

Text boxes are a common feature in introduction to psychology textbooks. They are used to highlight information and are identified by their unique color code, border, and title. This paper describes two studies that investigated the utility of boxed text.

In order to establish the importance of our investigation, we chose three random comprehensive introduction to psychology texts from Allyn & Bacon / Pearson (Baron, 2001; Carlson, 2007; Gerrig & Zimbardo, 2005). We focused on the learning and memory chapters as representative chapters and proceeded to measure the total surface area devoted to boxed text. This was accomplished by measuring the surface area of text boxes and dividing this total by the total chapter surface area. As the Appendix shows, the average area devoted to boxed text was 13.53%.

It stands to reason that if publishers highlight text by boxing it, they want readers to attend to the boxed text. Nevertheless, empirical evidence to the utility of boxed text is lacking. Researchers

have focused on features such as bold text, chapter summaries, or chapter glossaries (Gurung, 2004; Landrum & Hormel, 2002; Marek, Griggs, & Christopher, 1999; Weiten, Guadagno, & Beck, 1996) but neglected boxed text. One exception is work by Miller and Davis (1993) on recall of boxed material in textbooks.

Miller and Davis (1993) gave participants 30 min to study 10 pages of an introductory text for a comprehension test 24 hr later. One group was asked to study "all the material" (p. 31) and the other group was asked to study "all the material including the boxes" (p. 31). Results indicated that participants correctly answered 80% of the boxed and regular text when instructed to read the boxed material. Nevertheless, when the boxed text was not mentioned, participants correctly answered 80% of regular text and 20% of boxed text. Miller and Davis concluded that "instructors must emphasize the need to master this [boxed text] material" (p. 32).

The first study in this paper measured the perceived utility of boxed text. The second study measured the effect of text location (regular, boxed) on reader attention.

STUDY 1

Method

Participants

The 230 (87 men and 143 women, mean age = 19.28, $SD = 2.14$) participants were undergraduate students from Ohio Northern University. The freshmen ($n=138$), sophomore ($n=64$), junior ($n=21$), and senior ($n=7$) students were recruited from introductory classes in return for extra credits.

Materials

Students and faculty assisted in the creation of a 7-item questionnaire with multiple-choice ratings.

Design and Procedure

Information was collected in group sessions of 35 students. The printed instructions read

As you know, many textbooks include text boxes like the one shown in Figure 1. These text boxes are usually color coded and include a title. Please turn the page and answer the following questions based on your academic experience with major and non-major textbooks.

The boxed text in the figure was reprinted with permission from Gerrig and Zimbardo (2002) and identified by a green background, HOW WE KNOW title, and

border.

Goodness of fit chi square analyses were employed to explore differences between observed and expected response rates.

Results

Items 1-3. These questions attempted to find whether instructors emphasized boxed text. The multiple-choice ratings were restricted to always, frequently, rarely, and never. Seventy-one percent reported that their professors rarely (62%) or never (9%) specifically referred to text box information, $\chi^2(3, N = 230) = 200.40, p < .05$. Eighty-three percent reported that their professors rarely (52%) or never (31%) specifically assigned reading material from text boxes, $\chi^2(3, N = 230) = 126.97, p < .05$. Sixty-nine percent reported that their professors rarely (57%) or never (12%) tested them on information from text boxes, $\chi^2(3, N = 230) = 154.17, p < .05$.

Items 4-6. These questions attempted to find whether students used boxed text. The multiple-choice ratings for items 4 and 5 were restricted to always, frequently, rarely, and never. Sixty-two percent reported that they rarely (45%) or never (17%) study information in text boxes for upcoming tests, $\chi^2(3, N = 230) = 63.39, p < .05$. Fifty-one percent reported that they always (15%) or frequently (36%) read information in text boxes, $\chi^2(3, N = 230) = 74.80, p < .05$. The multiple-choice ratings for item 6 were restricted to yes and no. Sixty-nine percent reported that they are more likely to study information that is not included in text boxes than information that is, $\chi^2(1, N = 230) = 33.66, p < .05$.

Item 7. This question attempted to find the perceived value of boxed text. The multiple-choice ratings were restricted to extremely important, somewhat important, somewhat not important, and extremely not important. Fifty-seven percent reported that they find text boxes to be extremely important (8%) or somewhat important (49%) as consumers,

$\chi^2(3, N = 230) = 112.01, p < .05.$

Summary

Miller and Davis (1993) recommended that instructors emphasize boxed text, but our findings suggest the opposite. Moreover, students tended to study regular but not boxed text. Interestingly, participants reported reading boxed text and believing it to be important.

STUDY 2

Method

Participants

The 177 (76 men and 101 women, mean age = 19.28, $SD = 1.19$) participants were undergraduate students from Ohio Northern University. The freshmen ($n=99$), sophomore ($n=43$), junior ($n=21$), and senior ($n=14$) students were recruited from introductory classes in return for extra credits.

Materials

Ten pages from *Psychology and Life* by Gerrig and Zimbardo (2002) were reprinted with permission. An insert was added to the boxed or regular text on page 321. As shown in Figure 1, the insert instructed participants to stop reading and record the time on the demographic form.

Thus, the effect of text location (boxed, regular) was isolated by eliminating dependence on semantics.

Procedure

Information was collected in group sessions of 35 students. Alternate forms were distributed and participants were instructed to study the text for a comprehension test. In reality, no test was administered and the study was terminated after 8 min.

Results

Overall, 86% completely missed the insert, $\chi^2(1, N = 177) = 94.02, p < .05$. Hit rates among boxed (17%) and regular (10%) text were not significant ($p > .05$, Mann-Whitney U test). In addition, hit latency among boxed (4.2 min) and regular (4.0 min) text was not significant, $t(175) = 1.18, p > .05$. Ad-hoc analyses failed to find differences in performance with sex and academic class as test variables.

Summary

Most participants "skimmed" the text and missed the insert regardless of its location. Few "studious" participants studied the text and found the insert regardless of its location. The fact that the hit latency was the same across conditions is important. First, this finding serves as a subject expectancy control. Because it required participants 4 min to reach the insert, we infer that the participants were blind to the conditions. Second, we infer that text boxes are not an effective "attention grabbing" tool because participants did not start with the boxed text.

Discussion

The first main finding was that boxed text failed to capture attention. Participants did not read the boxed text first and did not find more inserts in the boxed text. The second main finding was that attention was a function of dispositional factors, not text location. "Studious" participants read the text with equal attention to boxed and regular text and "skimmers" glanced over the text with equal disregard to boxed and regular text. Miller and Davis (1993) predicted that comprehension, and by extension attention, is a function of text location (and instruction). Our findings failed to support this predication because there were no significant differences in hit rates among the regular and boxed text.

Inadvertently, some findings relate to the pitfalls of survey research. First, participants reported studying regular text and ignoring boxed text. In reality, participants ignored both regular and boxed text. Second, participants reported reading (but not studying) boxed text and believing it to be important. It is not clear when students read boxed text or why they believe it to be important. These findings highlight the importance of contrasting survey with behavioral findings and heeding the limitations of survey design.

Recommendations

Publishers should note that students reported reading and finding boxed text important. Educators should note that students reported ignoring boxed text when studying, perhaps because educators neglected boxed text. Educators should also note that, in reality, students skimmed both regular and boxed text. We recom-

mend that publishers keep boxed text and that educators emphasize important text regardless of its location.

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Appendix

Proportion of Chapter Devoted to Boxed Text in Three Introduction to Psychology Text

	Learning	Memory	<i>M</i>
Baron	12.27%	13.67%	12.97%
Carlson	17.88%	11.06%	14.47%
Gerrig	12.25%	14.06%	13.15%

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HOW

WE KNOW.

THE NATURE-NURTURE DEBATE A young doctor, Jean Marc Itard, accepted the challenge of trying to civilize and educate the Wild Boy of Aveyron, whom he named Victor. At first, Itard's intensive training program seemed to be working. Victor became affectionate and well-mannered and learned to follow instructions. After five years, however, progress stopped, and the teacher reluctantly called an end to the experiment (Itard, 1802/1962). Did nature or nurture fail? Perhaps Victor had been abandoned as an infant because he was developmentally disabled. If that was the case, any training could have had only limited success. If not, would modern training procedures have helped the boy develop more fully than Itard's methods?

On one side of this debate are those who believe that the human infant is born without knowledge or skills and that experience, in the form of human learning, etches messages on the blank tablet (in Latin, the *tabula rasa*) of the infant's unformed mind. This view, originally proposed by British philosopher John Locke, is known as *empiricism*. It credits human development to experience. Empiricists believe that what directs human development if you are reading this, look at the clock and record the time on top of the demographic form, put your pencil down and wait for further instructions is the stimulation people receive as they are *nurtured*. Among the scholars opposing empiricism was French philosopher Jean-Jacques Rousseau.

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Figure 1. An insert instructed participants to stop reading and record the time (From Gerrig, Richard J. & Philip G. Zimbardo Psychology And Life, 16/e Published by Allyn and Bacon, Boston, MA, Copyright (c) 2002 by Pearson Education. Reprinted/adapted by permission of the publisher, pp. 319-328).