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The Effect of Text Format Upon Underachieving First Year College Students' Self-Efficacy for Reading and Subsequent Reading Comprehension

This study had two purposes. One was to investigate the effect of text format on underachieving first-year college students' self-efficacy for reading; the second was to compare self-efficacy ratings with subsequent reading comprehension. Seventy-six students in a university learning support services program at a large Northeastern university participated in this two day study. On day one, participants viewed eight versions of an approximately 250-word passage simultaneously, each with a different combination of font size, margin width, and heading, and were asked to make a judgment about their self-efficacy for reading each. On day two, a few weeks later, the participants read and answered questions based on two passage formats, one that reflected their highest self-efficacy rated format and the other their

lowest. A dependent samples t-test revealed that comprehension scores for the highest self-efficacy rated format were significantly higher than for the lowest self-efficacy rated format. In addition, a 2 x 2 x 2 randomized block factorial analysis indicated significant main effects for the presence of headings and the 12-point font condition, but not for margin width. We then make suggestions about how college faculty can offset students' negative self-efficacy for reading college material.

Robert (a pseudonym) is overjoyed to be in college. In spite of less than optimum academic performance in high school, he was accepted into college in a special program because of his potential. He is excited about his new courses and what he hopes will be a new beginning in school for him. Immediately after his first orientation session, he runs to the college bookstore to purchase his textbooks. However, when he locates his books, he is aghast at what he encounters and groans audibly. Hearing this, his friend Roberta (also a pseudonym) asks what's wrong. He replies, "Look at this book. I can't read all this stuff." Showing Roberta a few of the pages in his book, he exclaims, "This is ridiculous. Look at all those words. Who could get through this? Not me! That's for sure! This is worse than high school. Forget it. I am going to put this book back. I might as well go home now!"

Unfortunately, comments such as Robert's are heard often in many colleges and universities, especially among first-year students designated as underachievers who are adjusting to a new and vastly different academic and social environment. For these students, the nuances of college life can be especially formidable. In high school, Robert knew most of the students, his classes were small, and all were located in one building. Typically, he is now one of thousands of students from different parts of the country and world, attends large classes, and lives on a campus with many buildings. Although he is attending special summer classes to introduce him to college academic and social life, he feels disoriented and is concerned about his chances of success.

Robert's immediate judgment about the difficulty of the textbook became evidence, accurate or not, strong enough to convince him that he will not succeed. Accustomed to struggle and frustration throughout high school, he reaffirmed his feelings of inadequacy, now toward reading college textbooks, based on a brief look at the textbook used in one of his classes. Robert's optimistic attitude quickly, almost instantly, changed, and in his own words he became discouraged about success in college.

Intimidated by a textbook's appearance, students such as Robert may become convinced that the likelihood of understanding its content is very low, and consequently may decide to avoid reading it or to read it in a perfunctory manner. This is particularly devastating because, as in Robert's case, the academic year had not yet even begun, and what he concluded in the bookstore in a few seconds sets him up for failure before the academic year has even started. The tragedy of Robert's story is that he has become his own worst enemy as a result of his negative self-belief.

Therefore, we conducted this investigation to determine the degree to which text format affected underachieving college students' belief about their ability to comprehend prospective textual material, and their subsequent comprehension of that material. The theoretical rationale emanated from the educational and psychological research literature in both motivation, and from text variables that affect comprehension.

Motivation

A useful and often cited definition of motivation is "the process whereby goal-directed behavior is instigated and sustained" (Pintrich & Schunk, 2002, p. 5). Many teachers judge students' motivation by the degree to which they participate in a task, a readily observable indicator. Therefore, when a student works assiduously on a task the teacher is likely to conclude the student is highly motivated. There may, in fact, be numerous reasons why the student is engaged in the task (interest in the topic, appropriate level of readability of material, desire to please the teacher, desire to emulate another respected student, inherent value of the task, belief about one's ability in relation to the activity, or avoidance of another activity), which may individually or in concert explain student level of engagement. Based on the conclusion that there is no apparent motivational problem with such a diligent student, however, this teacher may not feel the need to ponder the nature of motivation; instead, he or she may attend to other more pressing instructional issues such as classroom management or student absenteeism.

When students are not engaged in academic tasks, however, an in-depth understanding of the nature of motivation becomes both critical and informative to resolve the problem. A teacher knowledgeable about the components and processes of motivation for academic tasks can begin to formulate a plan to increase student motivation and engagement; one not knowledgeable in the nuances of motivation and who views motivation as a one dimensional construct consisting of making students feel excited about a task is less likely to enact an effective plan to enhance motivation.

Bandura (1986) provided an explanation of motivation that included the critical role of self-efficacy, defined as the "belief in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3). Two key aspects of self-efficacy are (a) its predictive nature (because its formulation precedes engagement in a task) and (b) its existence as a perception, a belief that may not be accurate. There is, in fact, compelling evidence supporting the influential role self-efficacy has upon performance, albeit indirectly as a mediator (Bandura, 1997; Lane & Lane, 2004; Linnenbrink & Pintrich, 2003; Schunk, 1989; Zimmerman, 2000). Students' self-efficacy appears to relate most directly to their level of engagement in a task; the stronger the self-efficacy, the more likely the individual will remain engaged in the activity. As a result, such individuals tend to achieve at a level higher than expected because they are more likely to persevere on the task; it is this perseverance that results in achievement (Bandura, 1986, 1995, 1997). However, high self-efficacy does not compensate for lack of ability; it enables the individual to achieve at a level commensurate with his or her potential. An individual with low ability who has high-self efficacy for a task will persevere and outperform another individual of the same ability level who has low self-efficacy for the same task or even an individual with higher ability, but who has low self-efficacy. However, he or she will not outperform an individual with high self-efficacy as well as high ability for that task.

Self-efficacy mediates between motivation and achievement. "Besides the quantity of effort, the quality of effort in terms of deeper processing strategies and a general cognitive engagement of learning has been strongly linked to self-efficacy perceptions" (Linnenbrink & Pintrich, 2003, p.129). Highly self-efficacious students are more likely to persist on a task and to use more sophisticated learning processes and strategies compared to students with lower self-efficacy (Linnenbrink & Pintrich, 2003). As a result, such individuals achieve at a level higher than expected.

Text Variables

Many researchers have examined the effect of linguistic and cognitive variables in text upon reading comprehension. For over three decades researchers (Dick, Wulfeck, Krupa-Kwiatkowski, & Bates, 2004; Layton & Simpson, 1975; Meyer, 2003; Pearson, 1974; Peltz, 1973-1974; Spiro & Esposito, 1981; Szabo, 1976; Tatham, 1970; Venable, 2003) have confirmed the important role of syntax and other surface structure linguistic features upon students' reading comprehension. The evidence is that voice, anaphora, and connectives were linguistic features that influenced comprehension for readers of different developmental levels.

Other researchers (Keenan, 1986; Keenan & Brown, 1984; Kintsch & Keenan, 1973; Kintsch, Kozminsky, Streby, McKoon, & Keenan,1975; Kintsch & Van Dijk, 1978; McKoon, 1977; Myers & O'Brien, 1998; Suci & Hamacher, 1977; van den Broek & Lorch, 1993; Van Dijk & Kintsch, 1983; Waters, 1978; Weaver & Dickinson, 1982; Wolfe, 2005) focused on the cognitive structure of text, examining the effect the number and organizational pattern of ideas (propositions) had upon both recall and comprehension. Findings indicated that both the number of and the relationship among propositions influenced comprehension for readers at different developmental levels.

Lacking in the literature on text variables and reading comprehension, however, are reports of the effect of initial perception of overall visual configuration of text format on readers' comprehension. Text format refers to the general layout or configuration of a page, including font size and type, margins, presence or absence of headings, space between lines, side margin width, and top and bottom of page space.

However, in one study of the effect of text format on reading, Schmid (2002) reported that paragraph indentation enabled the understanding of perspective shift while reading narration from a computer monitor. Based on their eye movements and comprehension, participants experienced more difficulty apprehending shifts of perspective when there was no paragraph indentation.

In a review of studies of computer screen display formats, Dyson (2004) concluded that (a) text configuration variables such as line length, character (font) density and size, amount of text, margin size, columns, window size, and interlinear spacing had very little effect upon reading speed and comprehension, and (b) readers' opinions of text format variables did not affect performance. However, the generalizability of these studies is limited for at least three reasons: (a) Most were conducted with computer displays of text, not printed material; (b) in many cases, participants made judgments about text variables after reading, not before; and (c) a relatively small number of participants limited the robustness of the findings in many cases.

Therefore, we conducted this investigation to determine the role that subjective a priori judgment of text format plays in reading performance. We hypothesized that for those readers who have a history of underachieving in school, initial visual encoding of the page may play an influential role in the formation of a self-efficacy belief about reading that text, subsequent motivation to read, and comprehension.

Method
Participants
Twenty-four male and 52 female first-year college students enrolled in

the University Learning Support Services Program (ULSSP) at a large urban university in the northeastern United States agreed to participate. All demonstrated potential for college based on their high school grades, but performed poorly on the Stanford Diagnostic Reading Test given to incoming students. Approximately 50% were African-American, 25% Hispanic, 20% Caucasian, and 5% Asian.

Materials
Materials used in this investigation consisted of two reading passages with comprehension questions. We obtained permission from the publisher to use the passages from study skills materials designed for students who struggle in college. These passages, written at an approximately seventh grade level of readability according to the Fry Readability technique, contained approximately 950 words each. One was entitled, "Reading Faster" (RF) and the other "Developing Note Taking and Listening Skills" (DNLS). Both came from a book on how to study. We used a 250-word excerpt from the RF passage on day one of this study, and both passages on day two.

We created eight versions of the RF passage by altering three format variables: font size (10 or 12 pt.), headings (present or absent), and margin sizes (.5 in. or 1.0 in.). We printed each on 8 1/2" by 11" white paper, and placed them in two rows on a 2 by 3 foot panel board with light blue backing so all versions could be viewed simultaneously. On the top center of each page a numeral identified each version. (Appendix A contains a sample of two versions of the RF passage, one formatted with ten-point font, one-half inch margins, and no headings; the other formatted with twelve-point font, one inch margins, and headings. Appendix B contains one version of the DNLS passage formatted with ten-point font, one inch margins, and headings. The participants did not see the formatting formula that appears next to the chapter number in the appendices.)

Together, three of the authors, each with expertise in reading (one had a Ph.D. in reading education, one was a doctoral student working on a dissertation in reading, and one had a master's degree in education and was the director of the University Learning Support Services Program), created five literal comprehension questions for each passage that we felt measured comprehension. (See appendix C.) Although we did not establish validity for these questions statistically by relating them to another measure of comprehension, we concurred on their face validity.) While we support the position that reading comprehension is a complex process through which readers construct meaning and transact

with text as Rosenblatt (1994) has explained, for the present study we chose to use literal questions as an objective way to compare readers' general understanding of the same written information.

Self-efficacy measures

We created two self-efficacy measures, one for a short look at the reading material, and the other for a longer look. During the short-look measure, participants responded to the following two questions after viewing all eight format conditions at once:

1. Of all eight essays, on which one do you think you would score highest on a test of comprehension?
2. Of all eight essays, on which one do you think you would score lowest on a test of comprehension?

We were interested in participants' immediate judgment of ability relative to each passage based on rapid processing of visual information. Although this measure did not provide information about the strength of self-efficacy judgment, it did provide a relative measure; a participant might feel that he or she would perform better on passage "A" compared to passage "D" without indicating strength.

During the longer look measure, the following question and response form was repeated eight times, one for each version on the panel board.

If you were given time to read it, how sure are you that you would get all the comprehension questions correct on essay 1, 2,....8?

1	2	3	4	5
(not at all certain)				(very certain)

For the second measure, the participants were given more time and were asked to indicate strength of self-efficacy. This measure of self-efficacy included a Likert type scale and wording and asked for judgments of level of certainty, both consistent with Bandura's (in press) advice on developing self-efficacy measures.

In his discussion of content validity of self-efficacy scales, Bandura (in press) noted that "scales of perceived self-efficacy must be tailored to the particular domain of functioning that is the object of interest" and "there is no all-purpose measure of perceived self-efficacy" (p. 2). Self-efficacy may vary depending upon the task and the particular situation in which the task is presented so it is difficult to establish validity of a self-efficacy scale by comparing it to other measures of self-efficacy, even within the same domain. Self-efficacy measures, therefore, are context and situation specific, asking the respondent for a belief of how he or she will do given the circumstances and prospective task.

Procedure

We met the participants during their regularly scheduled ULSSP class groups, containing 3 to 12 students. We explained that we wanted to get their reactions to some pages of text, and then at a later time return to ask them to read some passages and answer related questions. We informed them that participation was voluntary, results would not affect their course grades, and all responses would be anonymous. All agreed to participate.

We conducted this study in two phases over two days. Day one had two stages, a short-look presentation and a longer-look presentation. During the short-look presentation, students were given 60 seconds to view the display board with the 8 format versions of the RF passage. (Two versions of the tri-fold board display were constructed, with the order of the passages reversed, to counteract the possibility that position on the board would affect ratings.) We asked participants to indicate on their short-look self-efficacy response form the number of the version on which they felt they would get the highest and the lowest comprehension scores.

The longer-look presentation followed immediately. During this stage, we gave the participants two minutes to look at all eight versions again and to indicate on their longer-look self-efficacy response form how well they felt they would do on each version. We gave them the option of getting out of their seats to look more closely at the display board, and most did. During both stages we alternated display boards for every other group of participants to avoid a response bias as a result of placement on the display. One group viewed the versions in the reverse placement order of that given to the previous group. This concluded the first phase.

Approximately one month later, we asked each participant to read two passages on two topics, DNLS and RF, at their desk and to respond to related comprehension questions within ten minutes. (It took approximately one month to meet with the classes and to administer phase one.) One passage was in the format that elicited the highest self-efficacy rating (HSER) during the short-look and the other in the format that elicited the lowest self-efficacy rating (LSER) during the short-look. Not all of the participants received the same passage formats; they received the passage formats according to their subjective rating from day one of the study. Half the participants first read the RF passage followed by the DNLS passage, while the other half read the DNLS passage first followed by the RF passage, ignoring format condition. All participants completed these tasks within the time allotted.

Data Analysis

Descriptive and inferential statistics were used to analyze the data. The effects of the various formats on student self-efficacy for reading were investigated through a frequency analysis and a 2 (font size) x 2 (presence of headings) x 2 (margin width) analysis of variance. The impact of passage ratings on their actual performance was analyzed through a paired t-test of their scores on the lowest rated format versus the highest rated format.

Results

We conducted five analyses of the data. First, we conducted a paired samples t-test, comparing mean comprehension scores of the HSER passage format (mean = 4.49, *SD* = .86) with those of the LSER passage format (mean = 4.16, *SD* = 1.0). Results consistently indicated significantly higher comprehension scores on the HSER formatted passage. This was true regardless of the particular passage format rated by each participant as highest or lowest in self-efficacy. Table 1 presents these findings.

Table 1
Dependent Sample t-test of Reading Comprehension Scores for Highest and Lowest Self-Efficacy Rated Formats.

| Mean Difference (High-Low)	Standard Deviation	Std. Error of Mean	*t*	*df*	Sig.
+ .33	1.215	.139	2.360	75	.02*

* *p* < .05

We were also interested in the consistency of self-efficacy ratings in the short-look and longer-look conditions. Therefore, we ranked the formats in each condition, and subsequent Spearman Rank correlations indicated a moderate positive relationship (ρ = .36, *p* = .002).

We were also interested in determining if there was a passage format preference for these participants; figure 1 shows the percentage breakdown of participants' self-efficacy ratings for each format condition. As evident from the figure, the passage with the larger font size, headings present, and the larger margins elicited higher self-efficacy rating by the greatest percentage of participants. The passage with the smaller font size, no headings, and smaller margins elicited lowest self-efficacy

rating by the greatest percentage of participants. Overall, the passages with headings present were most often selected as likely to be easiest to comprehend, and larger font size also appeared to have some impact on selection. Margin size did not have a consistent effect.

Figure 1
Participants' Self-Efficacy Ratings by Format Condition in Short Look Presentation.
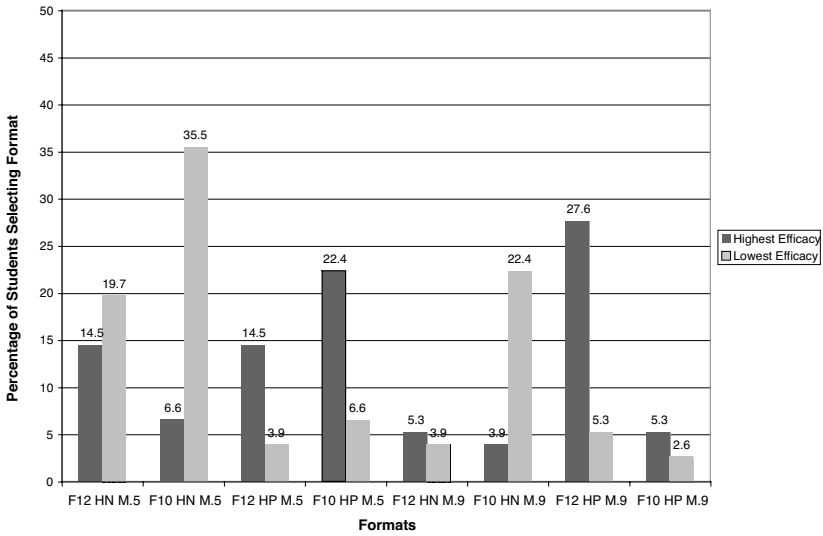
Next, we examined participants' self-efficacy ratings for reading these passages for each of the eight format conditions. A 2(font) x 2(heading) x 2(margin) analysis of variance was conducted to investigate the impact of these factors on self-efficacy ratings in the "short-look" condition. These results are presented in Table 2. Significant main effects were observed for heading and font, but there were no significant interactions. The presence of headings did indeed increase participants' feeling of self-efficacy for reading this material, as did the use of a larger font size, but margin size was not observed to have a significant effect.

A further comparison of the mean ratings of the HSER format with the other formats in the short-look condition indicated a statistically significant difference ($t = 6.81$, *df* 7, $p < .000$), with the highest rated self-efficacy format demonstrating mean scores of 4 or more on the 5-point scale.

Table 2
Means and Standard Deviations of Self-Efficacy Ratings*

	Margin				
	Narrow (.5)			Wide (.9)	
	Font			Font	
Heading	10 Pt.	12 Pt.		10 Pt.	12 Pt.
No Heading					
M	2.53	2.97		2.61	3.12
(SD)	(1.04)	(0.97)		(1.06)	(0.91)
Heading					
M	3.70	3.82		3.45	3.80
(SD)	(0.95)	(0.84)		(0.97)	(0.98)

* *N* = 76 for all cells.

Table 3
Tests of Effects of Margin, Heading, and Font on Self-Efficacy Ratings

Source	SS	df	MS	MSE	df_e	F
Margin	1.16	1	1.158	1.543	72	0.75
Heading	128.55	1	128.55	3.28	72	39.18***
Font	28.93	1	28.93	1.52	72	18.97***
Margin x Heading	5.37	1	5.370	1.262	72	4.254
Margin x Font	.02	1	.027	1.017	72	.027
Heading x Font	.43	1	.438	1.102	72	.398
Margin x Heading x Font	.17	1	.171	.946	72	.181

* *N* = 76 for all cells.
*** $p < .001$

Discussion
Self-efficacy and Reading Comprehension
That the comprehension scores for these participants were significantly higher on the passage reflecting the HSER format compared to the passage reflecting the LSER format, regardless of topic, is educationally significant and consistent with a body of research that attests to the

positive, albeit indirect, relationship of self-efficacy to performance (Bandura, 1986; Lane & Lane, 2004; Ormrod, 2004; Pajares, 1996; Pintrich & Schunk, 2002). Especially relevant is the finding of Multon, Brown, and Lent (1991) who reported this relationship to be stronger for low achieving students compared to high achieving students and for high school and college level students compared to elementary school students. They noted, "This finding suggests that self-efficacy effects may be particularly facilitative for low-achieving students and points to the value of further development and evaluation of methods to promote the academic self-efficacy percepts of such students" (p. 35). This statement has particular resonance for the present study because the participants in the present study were low-achieving first year college students who performed at a higher level when reading material that reflected their respective HSER passage format.

The evidence from this study suggests these participants apprehended a feature or features personally most salient in the visual display to formulate a belief about their likelihood of comprehending successfully. (Consciously or subconsciously focusing upon one or more features while ignoring others is referred to as attentional selection.) In turn, that feature or those features provided evidence for each participant to determine format considerateness or user-friendliness which then influenced self-efficacy ratings. Text considerateness refers to "text that the writer has made easily comprehensible, as by clarity of organization, appropriate vocabulary, and supplemental explanatory features" (Harris & Hodges, 1995, p. 42). Rapid visual perception of one feature or of more than one appeared to influence belief about the difficulty level of the material to be read.

The better performance on passages rated as highest in self efficacy can be explained by the mediating effect self-efficacy had on performance. As Greene, Miller, Crowson, Duke, and Akey (1996) noted, "Achievement is positively affected by perceived ability and learning goals, but the effects of these variables were indirect, operating through meaningful cognitive engagement activities" (p. 188). "Students with high self-efficacy tend to learn and achieve more than students with low self-efficacy, even when actual ability levels are the same" (Ormrod, 2004, p. 143), and individuals with high self-efficacy for a prospective task are more likely to become engaged in that task and persevere in spite of difficulties they might encounter as they complete that task (Guthrie, Wigfield, & Perencevich, 2004).

Although we gave these participants a relatively short time (60 seconds) to make a self-efficacy judgment (about as long as it took Robert in the bookstore to decide upon the difficulty level of the book), given a

longer time—albeit only two minutes—to look at the material again but more closely, their judgment remained stable, as the Spearman Rank Correlations indicated.

It is likely, therefore, that when students, such as those described in this study, first glance at a page in a college level text, they make an initial critical and influential judgment about the likelihood of success reading it. A positive judgment will result in greater motivation to read than a negative one, assuming all other factors remain the same. Although in this study we did not focus on the time necessary to make a self-efficacy judgment about reading material, for many individuals, particularly those who have struggled in school, such a judgment may be made in less than 60 seconds, perhaps within a few seconds. In our collective experience as teachers, we recall many elementary, secondary, and post-secondary students who immediately commented about the great length of new assignments and books; we remembered that some even commented on the weight and size of their texts.

Judgments made in such a short time may have disproportionately long-lasting deleterious effects on students' success, especially students who struggle with reading and academic tasks in general. Once an individual decides he or she will not be successful reading a book or passage, the likelihood of becoming engaged in reading that material diminishes proportionately. As a result, performance suffers even though he or she may have the ability to perform at a higher level. This is probably especially true when that decision is congruent with prior information held about personal reading ability and one's life-long literacy self-identity as Johnston (2004) described it.

Some of the findings of this study were anomalous. There was no difference in comprehension scores between the HSER and the LSER formats for 35 of the 76 participants, and 15 participants scored higher on the LSER format. One explanation may be that the time between the self-efficacy judgment in phase one and the comprehension activity in phase two was too long. The closer in time the self-efficacy judgment is to the performance measure, the stronger the effect size is likely to be (Holden, Moncher, Schinke, & Barker, 1990), and in this case, there was an intervening period of about 3 to 4 weeks due to students' schedules and instructional agendas for the sessions. At the request of their teachers, we did not want to use what might be considered too much class time in one session, and this prevented us from administering both phases in one day. Although in phase one, participants took a relatively short look at the passages, the explanation and "set-up" of the material took about 20 minutes; phase two also took about 20 minutes to implement. ULSSP sessions were 50 minutes in length.

An additional explanation is the possible lack of sensitivity of the comprehension measure. Admittedly, assessing comprehension by using five literal level questions is limited and does not tap elaborated processing of text; however, all participants responded to the same questions and had, therefore, the same opportunity, limited as it may have been, to demonstrate their knowledge.

We also recognize that these participants were asked—perhaps they felt forced—to make a judgment about material before reading it and that making such a judgment was not a spontaneous event. It is possible that these participants might not react to textual material with a self-efficacy belief based on a quick look at text as they did in this study. However, our collective experience as teachers at different levels, from elementary to college and university, led us to agree that, in fact, students look at books or other reading material and react to their considerateness based on one or a combination of factors: text format, number of pages, recency of publication, overall attractiveness, condition (amount of deterioration), weight, or size.

Format Preferred

Another finding of interest relates to text format. Most often, these participants selected passages containing headings and larger font as easiest to comprehend, with no preference for margin size. This finding was not unexpected, and corroborates other research on larger font size preference, although self-efficacy was not addressed in these studies. Shumak and Redelmeier (2004) reported that physicians felt that 12-point font was best when reading medical ads in medical journals; Pacheco et al. (1999) reported a preference by college students for larger fonts when reading Internet menus; and Chen et al. (1996) reported a preference for 14 and 16-point font to 10- and 12-point font for computer based instruction.

This finding is important information for textbook publishers, educators, and others who develop written instructional material because it provides information about critical elements of text considerateness. A number of researchers have described the nuances of text considerateness or have compared level of considerateness to levels of comprehension (Beck & McKeown, 1991; Crismore, 1983; Kantor, Anderson, & Armbruster, 1983; Langer, 1983; McCabe, 1993; McKoon, 1977; Singer, 1986).

Due to budgetary limitations, publishers may limit themselves to a specific number of pages, and font size selected will affect the amount of information that can be included. However, they may find it advantageous to use larger font and more headings (although this may reduce

information on the page) and refer readers to related websites for information not included in the textbook. Although larger font may result in an information loss in the textbook, the benefit may be readers who are more engaged in the textbook. With the proliferation of wireless and portable laptop computers, students could easily access the suggested website for more information, and the value of the larger font would be to raise student self-efficacy and allow greater engagement. Another implication of these results is for careful editing of textbooks to ensure that only the most critical material is included, and tangentially related information deleted. Textbooks' purpose is to inform students about a topic. Clear explanation followed by examples helps students understand concepts.

Implications for Instruction
One implication of the findings relevant for university and college orientation and study skills sessions relates to familiarizing students with the nature of college and university reading material. Similar to "picture walks" (previews) that pre-school and early childhood teachers often conduct with pupils before they read a book, those who design and conduct university and college orientation sessions could include slides or power point presentations on the "look of literacy" in college. Such sessions should address students' potential reactions to college textbooks. As one example, a short video could depict one student responding in a supportive manner to another who, like Robert, has expressed a negative belief about personal ability to comprehend a college textbook successfully. He or she might say: "When I first looked at that book last year, I felt I could never get through it, but when I started doing the assignments, I realized that I was doing okay. The same thing will happen to you. You'll see!" or "That looks tough at first because it is so long, but you read it a section at a time and your professor gives you guiding questions that make it easy. You'll see. You'll get it!"
Such comments from a respected other person, such as the student in the video, address Robert's ability level and could help him formulate a positive self-efficacy judgment. Bandura (1995) called this verbal persuasion and wrote, "People who are persuaded verbally that they possess the capabilities to master given activities are likely to mobilize greater effort and sustain it than if they harbor self-doubts" (p. 4), and as he noted earlier (1986), "The more alike observers are to models in status and characteristics, the greater is the likelihood that similar actions will produce comparable results" (p. 297).

The effect of persuasive comments such as these depends also upon the degree of connection (same or similar ethnicity, gender, attire,

personal appearance, and interests) between speaker and listener. The message in the video will be most effective when viewers perceive a connection to the student speaking. One caveat here is that the teacher provides students such as Robert with reading supports, such as guiding questions or marginal notes to ensure success, because failure to achieve according to one's expectations would be harmful and weaken self-efficacy. Such material can be provided by learning support programs in a university.

Another scenario could show a student monitoring (self-regulating) his or her reading by thinking aloud as he or she progresses through college textbook. Self-regulation includes regularly summarizing and questioning one's self while reading and adjusting reading strategies when necessary. In their review of characteristics of successful and less successful learners, Tei and Stewart (2003) reported that with proper instruction, metacognitive strategies can be taught to less successful college level learners. One way to do this is through explicit instruction that includes modeling and guided and independent practice with material that is moderately challenging. Instructors in a university support services program such as the one in which these participants were enrolled can provide this instruction in consultation with content area college faculty.

When it is necessary to read small font, alternative assignments might include shorter but more frequent assignments that cover the same amount of material. Instead of assigning 100 pages to read, for example, a professor might consider two 50 page assignments within the same time period. The shorter length will seem less intimidating, reduce the amount of print necessary to read within a given period, and provide greater opportunity for useful instructor feedback on progress made. The more frequently a student receives constructive feedback and appropriate assistance from both the content professor and professors or tutors in the university learning support services program, the more likely the student will be able to adjust his or her reading and learning strategies to achieve success. The length of the assignments can be increased as the student experiences success.

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Appendix A

Format Versions of *Reading Faster*

(Note: Font 10, Margins .5, No Headings. Participants did not see this format description.)

Chapter 10
READING FASTER

Conscious readers know why they read. Reading purpose is important because it affects reading rate and type of reading.

What do you actually do as you "read"? Think about why you read. Most people just sit down and begin to read. However, simply "beginning to read" is not the best course of action. If you approach all reading tasks the same way, then you read ineffectively and inefficiently. Conscious readers can have a variety of reasons for their activity, and their reasons influence their reading methods.

How can your purpose for reading affect your reading method? Consider these different reading situations:

1. On a weekday night, before you begin to study for the next week's computer science test, you decide to read the newspaper for a few minutes.

2. After reading the newspaper, you begin to read your computer science textbook because you know next week's test will cover three chapters.

3. Your English instructor has assigned a research paper. Your chosen topic is Thomas Edison's inventions. From the library, you have taken out a biography of Edison, a book on nineteenth century American inventions, and three journal articles. In addition, you have photocopied an encyclopedia entry on Edison. You now have several pieces to read for your report.

4. Finally, the end of the semester has arrived. You have earned a rest. Therefore, you decide to spend a few days at the beach, relax, and read a good novel.

In each instance, you are performing the same task, reading. However, each task differs. You do not need to understand the novel as well as you need to understand the textbook. You do not read the newspaper in the same way you read the Edison encyclopedia piece. In each case, you have a different purpose and a different goal. By recognizing your purpose and goal each time you read, you can adjust your reading rate and comprehension.

All reading is not the same. All reading should not be done at the same speed. All reading does not require the same degree of concentration. All reading does not carry the same expectation for remembering the information later. Look again at the reading situation above.

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*Adapted from: Fitzpatrick, C. H., & Ruscica, M. B. (1999). *Reading thresholds* (2nd ed.). NY: Houghton Mifflin Co., pp. 289-290.

Appendix A continued

(Note: Font 12, Margins 1.0, Headings Present. Participants did not see this format description.)

Chapter 10
READING FASTER

Conscious readers know why they read. Reading purpose is important because it affects reading rate and type of reading.

What do you actually do as you "read"? Think about why you read. Most people just sit down and begin to read. However, simply "beginning to read" is not the best course of action. If you approach all reading tasks the same way, then you read ineffectively and inefficiently. Conscious readers can have a variety of reasons for their activity, and their reasons influence their reading methods.

READING PURPOSE

How can your purpose for reading affect your reading method? Consider these different reading situations:

1.   On a weekday night, before you begin to study for the next week's computer science test, you decide to read the newspaper for a few minutes.

2.   After reading the newspaper, you begin to read your computer science textbook because you know next week's test will cover three chapters.

3.   Your English instructor has assigned a research paper. Your chosen topic is Thomas Edison's inventions. From the library, you have taken out a biography of Edison, a book on nineteenth century American inventions, and three journal articles. In addition, you have photocopied an encyclopedia entry on Edison. You now have several pieces to read for your report.

4.   Finally, the end of the semester has arrived. You have earned a rest. Therefore, you decide to spend a few days at the beach, relax, and read a good novel.

In each instance, you are performing the same task, reading. However, each task differs. You do not need to understand the novel as well as you need to understand the textbook. You do not read the newspaper in the same way you read the Edison encyclopedia piece. In each case, you have a different purpose and a different goal. By recognizing your purpose and goal each time you read, you can adjust your reading rate and comprehension.

Different Situations = Different Reading

All reading is not the same. All reading should not be done at the same speed. All reading does not require the same degree of concentration . All reading does not carry the same expectation for remembering the information later. Look again at the reading situation above.

Furthermore, you use SQ3R because you want to learn from the text and remember as much as possible. Finally, you want and need to retain the information for a long time, perhaps a lifetime, so the information needs to be stored in your long-term memory.

Once again, your reason for reading has influenced the reading process. This type of reading is called reading for academic knowledge. Anyone in a new learning situation should read material this way.

Appendix B
One format version of Developing Note Taking and Listening Skills
(Note: Font 10, Margins, 1.0, Headings Present. Participants did not see this format description.)

Chapter 2
DEVELOPING LISTENING AND NOTETAKING SKILLS

Success in the classroom requires good listening skills and effective notetaking techniques. To have good listening skills, you must listen with comprehension. Effective notetaking techniques create notes that can aid your retention and recall of information.

The time students spend in a lecture classroom should be useful. Every student should be able to learn from the lecture. Admittedly, the lecture classroom is an ideal learning environment for an auditory learner. However, every student should use all his or her sensory modes, not just the dominant senses to aid learning. Therefore, everyone can and should learn from a lecture.

Why, then, do some students fail to benefit from lectures? Why do some students prefer to learn from a textbook, rather than a lecture? Probably, some students do not listen actively to the lecture. They respond with the lowest level of listening, instead of the highest. Consequently, they find it difficult to learn from a lecture.

There are three levels of listening:

1.   Hearing. Some students are present only physically during a lecture. They passively function on the lowest level of listening, hearing, as they let the waves of sound flow over them. This is an unfortunate situation because a lecture is not a hearing test, and a professor's voice is not just noise.

2.   Parroting. Sometimes, students regard a lecture hall as a game room. In this situation, the teacher is out to "catch" the student, and the student's strategy to avoid being caught is simple: listen at the middle level, called parroting. When the instructor questions the student, the student repeats verbatim the instructor's words, whether those words are relevant to the question or not. By parroting, the student avoids the appearance of being inattentive to the lecture. Thus, the teacher has not "caught" him. Of course, the parroting level of hearing and copying sounds does not help a student learn. It merely helps him or her pass that informal oral exam.

3.   Comprehending. This is the highest level of listening, understanding, and thinking. This level is the most useful one to students because it helps them learn while they sit in a lecture hall. Thus, lectures become an integral part of the learning process. Of course, listening with comprehension requires thought. Listeners must process the information and knowledge presented. In other words, to listen at the highest level, be an active listener.

ACTIVE LISTENING

In order to benefit from a lecture, you must listen with comprehension-that is, you must be an active listener. You must listen for the general structure of the lecture and organize your ideas accordingly. You must think about the material being presented. Such activity requires effort, but you will be rewarded with increased learning. The more you learn from each lecture, the less you will have to learn on your own. The lecture situation can become a learning environment only if you think about the topic being discussed, respond to the lecture, and interact with the instructor.

*Adapted from: Fitzpatrick, C. H., & Ruscica, M. B. (1999). *Reading thresholds* (2nd ed.). NY: Houghton Mifflin Co., pp. 21-22.

Appendix C
Comprehension questions for Reading Faster

Put the letter of the correct answer on the line before the number.

_____ 1. With which reading material might you skim certain sections while reading every detail of other sections?
a) newspaper
b) textbook
c) exam questions
d) a recipe

_____ 2. To which of the following would you need to give more time and attention?
a) newspaper
b) textbook
c) novel
d) comic book

_____ 3. Retention refers to...
a) how fast you read.
b) how much you understand.
c) how much you remember.
d) how much you enjoy the story.

_____ 4. Reading rate refers to...
a) how fast you read.
b) how much you understand.
c) how much you remember.
d) how much you enjoy the story.

_____ 5. Your reading purpose affects your...
a) reading rate.
b) comprehension.
c) retention.
d) all of the above.

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