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Factors Affecting the Comprehension of Global and Local Main Idea

This study investigated factors that would affect a reader's understanding of the main idea at the global level and explicit and implicit main ideas at the local level. Fifty-seven first-year university students taking a college reading course took a comprehension test on an expository text. Statistical analyses revealed that text structure had a moderate effect on the reader's understanding of the global main idea; only a weak correlation existed between comprehension of the global main idea and local main ideas, particularly the explicit main idea. Analysis of the local main idea's textual features suggested that identification of the explicit main idea was affected by the degree of explicitness, which was measured in terms of sentence structure, position in the paragraph, and the number of points in the sentence. Analysis of textual features associated with implicit main ideas indicated the complex role of example in illustrating the main idea. The study offers some practical implications for college reading curriculum and instruction as well as textbook writing.

I t is generally agreed by researchers and theorists that the ability to identify and state the main idea is central to meaning construction (Broek, Lynch, Naslund, Ievers-Landis, & Verduin, 2003; Graesser, Pomeroy, & Craig, 2002; Pressley, 1998; Stevens, 1988; Williams, 1988). In view of the critical role of the main idea, it is hardly surprising that learning to identify the main idea has long been central to the elementary school reading curriculum and beyond (Graves, 1986; Jitendra, Cole, Hoppes, & Wilson, 1998). Moreover, "getting the main idea" has been regarded as a litmus test of successful reading comprehension and, therefore, taught as a major reading strategy to bridge the gap between less able readers and more able readers

(Fielding & Pearson, 1994). In other words, the ability to identify the main idea delineated between strong and weak readers.

Over the years, the reading community has continued the inquiry into main idea comprehension, directing its attention to the reader's confidence and prior knowledge (Afflerbach, 1990; Davey & Miller, 1990; Pressley, Ghatala, Pirie, & Woloshyn, 1990); the number of examples and placement of the topic sentence in the text (Beishuizen, Asscher, Prinsen, & Elshout-Mohr, 2003; Day & Zajakowski, 1991; Harp & Mayer, 1998); and strategy instruction (Jitendra, Hoppes, & Xin, 2000). Given the extreme importance of reading comprehension in learning and the central role of the main idea in reading comprehension, it is only natural to predict that research into main idea comprehension will continue until national reading levels improve and college students are capable of understanding their textbooks at the level expected by their professors. In short, there is still much to be learned and understood about the main idea from the perspective of reading researchers, educators, and readers.

This study differentiated between main ideas on two levels: the global main idea at the text or discourse level, and the local main idea at the paragraph level. Furthermore, the local main idea was broken down into two categories: explicit and implicit. Due to the difference in text structure between narration and exposition, this study focused on expository text and its text structure. It examined to what extent the global main idea was related to the local main idea and text structure. It also took a closer look at the local main ideas in terms of their explicitness or implicitness, as determined by textual features. Specifically, three research questions guided this study:

1. Of the local main idea and text structure, which would better predict and account for students' ability to identify the global main idea?
2. What textual features would make the explicit main idea more explicit?
3. What textual features would make the implicit main idea less implicit?

Background

Unlike the consensus about the importance of the main idea in reading comprehension, the context in which the term *main idea* has been used varies from study to study. In fact, the term *main idea* was found to be synonymous with the theme of a narrative story (Broek et al., 2003; Graesser et al., 2002), the central idea of an expository text (Afflerbach, 1990; Beishuizen et al., 2003; Davey & Miller, 1990; Pressley et al., 1990),

and the topic sentence in a paragraph of an expository text (Day & Za-jakowski, 1991; Goldman, Saul, & Cote, 1995; Harp & Mayer, 1998). The loose use of the term, or the lack of an operational definition in studies, made it hard to accurately compare results across studies and provide meaningful guidance for classroom instruction.

This study viewed the main idea on two hierarchical levels: global and local. The global main idea referred to the central idea of a multiple-paragraph, expository text, while the local main idea was defined as the most important point about the topic of an individual paragraph. The local main idea was differentiated in terms of visibility to the reader. The explicit main idea was stated in the paragraph, hence visible to the reader; the implicit main idea was suggested in the paragraph, hence less visible to the reader.

The level of the main idea was an important factor that would influ-ence the interpretation of study results. A text usually has several local main ideas but only one global main idea that governs the entire text and receives support from all the local main ideas in the text. But the global main idea is not the sum of all the local main ideas put together. Instead, it is formed through a hierarchically structured text. Therefore, knowledge of text structure would help the reader to identify the global main idea (Meyer & Rice, 1984). In fact, using and analyzing the text structure to generate the main idea was a highly recommended read-ing strategy to facilitate the reader's separation of "the wheat from the chaff" (Pressley & McCormick, 1995).

The knowledge of text structure includes the notion of the hierarchical nature of expository text and the ability to recognize the overall logical structure of the text (Meyer, 2003). According to Meyer, hierarchical structure of ideas is characteristic of expository text, meaning that the most important idea is placed on top and other ideas are located in descending order of importance, hence constituting the overall logi-cal structure of the text. The hierarchical structure of expository text entails that identifying the local main idea may not necessarily lead to identifying the global main idea. By the same token, understanding an individual paragraph may not indicate that the reader understands the entire text. The distinction between the global main idea and the local main idea underscores a structural view of the main idea realized in a hierarchically organized text. In addition, it could capture where comprehension succeeded or failed.

For the local level main idea, this study adopted the definition offered by Aulls (1978). Although his definition is three decades old, it is the only one so far found in the literature that clearly confined the main idea to the paragraph level. Moreover, it specified its form, content, relevance,

location, and visibility. According to Aulls (1978), the main idea usually appears in one complete sentence; it is the most important statement that explains the topic of a paragraph; it is related to the majority of sentences in the paragraph; it may occur at any point in a paragraph; it may be implied and explicit (p. 92).

Toward the end of his definition, Aulls makes a distinction between the implied main idea and the explicit main idea. This distinction assumes that the two kinds of main ideas tap different cognitive capabilities. When reading a paragraph with an explicit main idea, the reader could use the main idea statement as a clue to infer the relationship between this statement and the rest of the sentences in the paragraph—something was offered to build on. When reading a paragraph with an implicit main idea, the reader has to explore the relationship among all the sentences—little is offered to start with. Indeed, variation in students' ability to recognize the two kinds of the main ideas was noticed in the few studies that separated the explicit main idea from the implicit one. For instance, explicit main ideas were generally comprehended more readily and correctly than implicit main ideas (Hare, Rabinowitz, & Schieble, 1989; Williams, Taylor, & Ganger, 1981). The kind of inference involved in comprehending the two types of local main ideas was described by Kintsch (1998) as a continuum, ranging from automatic, easy, quick, and subconscious to effortful, controlled, and conscious. In a sense, the difference between identifying the explicit main idea and the implicit one was similar to the difference between answering a multiple choice question and an open ended one.

Not only would the distinction between the two kinds of main ideas permit more accurate assessment of the reader's ability to infer, but it would also reveal the reader's linguistic sophistication. In their attempt to construct the implicit main idea, readers must tap their productive language skills to articulate the main idea that was not explicitly stated in the text. In fact, it was found that the ability to construct the implicit main idea developed relatively late in most readers and was simply missing in others (Brown & Day, 1983). Measuring a student's ability to distinguish between the explicit main idea and the implicit one would enable educators to look more deeply at students' needs—whether they needed assistance in inference skills or linguistic competence. In other words, only when the cognitive challenge of identifying both kinds of main ideas was discriminated could accurate assessment of students' comprehension skills be made and effective reading instruction become a reality.

Text genre was another factor that tended to influence the interpretation of study results about the main idea. The relationship between

individual sentences in an expository text is qualitatively different from that in a narrative text. In a narrative text, the character's goals play a pivotal role in establishing the overall structure of the text, so that the connections between text units hinge on the character's goals (Broek et al., 2003). In an expository text, the text structure is crucial to revealing the author's thread of ideas, so that the connections between important points are realized through the text structure. As a result, narration and exposition differ in macro-processing (Cash, Schumm, & Schumm, 2006). When reading a narrative text, the reader must keep in mind the character's goals in order to understand the character's behavior; when reading an expository text, the reader must recognize the author's text structure in order to understand the global main idea supported by local main ideas. Therefore, it is necessary to distinguish narration from exposition when studying the effect of text structure on the comprehension of main idea.

Method
Participants
Participants were 57 first-year students at a northeastern university who enrolled in a college reading course due to their relatively low scores on a placement test and the verbal component in the SAT. The over-whelming majority of the students were traditional students. African American students accounted for 68%. Among the African American students, 58% came from urban school districts in a major city. The rest were Caucasian students who came mostly from small towns around the university.

Material
The material used in this study was an expository text (Verderber 2008), with slight modification for the purpose of this study. It had 1,680 words and multiple paragraphs. The readability measured by the Flesch-Kincaid Reading Level was 11th grade. Below are the introduction of the text and the opening sentence of paragraph two.

> An extremely important aspect of self-disclosure is the sharing of feelings. We all experience feelings such as happiness at receiving an unexpected gift, sadness about the breakup of a relationship, or anger when we believe we have been taken advantage of. The question is whether to disclose such feelings, and if so, how. Self disclosure of feelings usually will be most successful not when feelings are withheld or displayed but when they are described. Let's consider each of these forms of dealing with feelings.
>
> Withholding feelings—that is, keeping them inside and not giving any

verbal or nonverbal cues to their existence is generally an inappropri-
ate means of dealing with feelings.

The topic of the passage—*forms of dealing with feelings*—was explicitly
stated in the introduction. According to Kintsch (2005) and his colleagues,
identifying the topic of the text was a key process in the establishment
of the macrostructure of the text.

The text contained three implicit sections, each signaled by a topic
sentence. The first section explained the forms of dealing with feelings;
the second section discussed the benefits of describing feelings; the third
section offered tips for describing feelings. Together, they constituted the
overall logical structure of the text. The global main idea was focused
on describing feelings, relegating the other two forms of dealing with
feelings to the periphery. Each paragraph in the first section had a stated
main idea as shown in the last sentence of the above excerpt. In the
second section, all the paragraphs except one had implied main ideas
which stressed the actual benefits of describing feelings in response to
misconceptions about describing feelings. One paragraph in the third
section had an implicit main idea.

Corresponding to the research questions of this study, test questions
about the passage were made up of two components. One component
tested the student's ability to identify the text structure and to gener-
ate the global main idea. The identification of the text structure was
measured by the identification of the three implicit text sections and
the topic for each section. The test of the global main idea required stu-
dents to write a thesis statement about the text. The other component
tested the student's ability to identify local main ideas, both explicit and
implicit. Identification of the local main ideas was measured by a total
of 11 questions. Seven questions focused on the explicit main idea and
four questions focused on the implicit main idea. The questions were
in the format of short answers and fill-in-the-blanks.

Procedure

To begin with, a definition of the main idea (Aulls, 1978) was introduced
and iterated, followed by guided practice to reinforce comprehension
and application. The students were advised to keep the topic in mind
when constructing the implicit main idea. They were prompted to make
meaning out of details and warned against using vague words to express
the implicit main idea. To avoid confusion, the term *thesis* was used to
introduce the global main idea, which was also used in the test in place
of *global main idea* for consistency. Following the global main idea, the
concept of the text structure was introduced. Examples of using the text
structure to reveal and determine the global main idea were explained,

followed also by guided practice.

The students were informed of an upcoming test about the main idea before and after the lecture and practice. To motivate the students for the best results, the students were told that the test score would account for 10% of their final grade. A week after the instruction on the main idea and text structure, the students took the test on an expository text not given to them before, but on a topic familiar to them. To reduce test anxiety, no time limit was imposed. Most students finished the test within 40 minutes.

Data Analysis

The researcher analyzed the data in three phases to address the research questions. Phase one focused on the students' performance in four categories: the global main idea, the text structure, the explicit main idea, and the implicit main idea. Students were credited with one point if they recognized the two most important points in the global main idea; they were credited with a half point if they identified only one point. When the text sections were correctly identified and topics were appropriately named, students received one point; they received half a point when only the sections were identified. Local main ideas were scored individually in order to analyze the students' performance in relation to the textual features associated with the main ideas. Correct identification of each main idea merited a score of one point. Since the study was an investigation of meaning construction, grammatical and spelling errors in the statements of the local implicit idea and the global main idea were largely ignored, unless they hindered understanding. Finally, scores on each category were averaged to reflect performance in individual categories.

Phase two focused on the relationship among the categories. The global main idea was identified as the dependent variable, corresponding to three independent variables: the text structure, the explicit main idea, and the implicit main idea. A total of three statistical tests were performed. First, a simple regression analysis was conducted to determine the effect of each independent variable on the dependent variable. Then, a multiple regression analysis was conducted to reveal the exclusive effect of each independent variable on the dependent variable and to find a good model that would account for the dependent variable. Finally, a correlation test was conducted to examine relationships among the four variables.

Phase three focused on the textual features of each explicit main idea at the sentence level and the textual features of each implicit main idea at the paragraph level. The textual features of the explicit main

idea were coded in sentence structure, position in the paragraph, and the number of points in the sentence. Take for example the sentence, "Although describing feelings is the best way of dealing with feelings, few people are doing so." This sentence had two points, one evaluating describing feelings as the best method and the other informing the fact that few people were actually doing it.

The textual features of the first three implicit main ideas were coded in the number of statements that contradicted a widely held reason for not describing feelings, the number of details that supported the reason for not describing feelings, the number of details that supported the benefit of describing feelings, and the number of details that supported the harm of not describing feelings. The textual features of the last implicit main idea were coded in the number of steps and details that demonstrated the steps.

Results

1. The Effect of the Three Independent Variables on the Global Main Idea

On average, 55% of the students correctly identified all the explicit main ideas, 42% properly inferred all the implicit main ideas, 30% of the students correctly answered questions about the text structure, and 11% of the students correctly stated the global main idea. The performance of the students reveals some relationships between the individual categories. First, the explicit main idea is least related to the global main idea but closely related to the implicit main idea. Second, the global main idea is more closely related to text structure than to the explicit and implicit main ideas. These relationships suggest the effect of hierarchy—text vs. paragraph. First, the local level separates the explicit main idea and the implicit main idea from the global main idea at the text level. Second, understanding paragraphs does not necessarily lead to understanding an entire text. Third, identifying text structure helps to grasp the global main idea. The students' poorer performance in text structure and the global main idea also suggests that identifying the local main ideas engages students in a lower-level cognitive task than does identifying the global main idea. Following are the results of three statistical tests.

Table 1 presents the results of three simple regression analyses. In each simple regression model, the dependent variable is the global main idea. The small *p* values (< 0.001) for all the three independent variables indicate that all the simple regression models are statistically significant. However, the highest coefficient (0.37) indicates that text structure shows the strongest effect on the global main idea. The high-

est R^2 (0.602), which measures how well a regression line approximates real data points, confirms that the text structure model is the best fit of all three simple regression models. In this case, the students' poor performance on the global main idea reflects their poor knowledge of text structure. To determine the exclusive effect of each independent variable, a multiple regression analysis was conducted.

Table 1 Effect of Each Independent Variable on the Global Main Idea

Independent variable	Coefficient	P value	R2
Explicit main idea	0.05	< 0.001	0.231
Implicit main idea	0.11	< 0.001	0.397
Text structure	0.37	< 0.001	0.602

Table 2 Exclusive Effect of Each Independent Variable on the Global Main Idea

Independent variable	Coefficient	P value	R2
Explicit main idea	0.004	< 0.735	
Implicit main idea	0.019	< 0.422	
Text structure	0.323	< 0.001	0.608

Table 2 presents the results of the multiple regression analysis in which the dependent variable is the global main idea, corresponding to three independent variables listed in the table. All three values associated with text structure point to some effect on the dependent variable, the global main idea. First, the highest coefficient (0.323) shows the strongest effect of the text structure on the global main idea; second, the p value (< 0.001) presents the statistical significance of the text structure for the global main idea; finally, the R2 (0.608) indicates a moderate fit of this model. In short, the multiple regression analysis confirms the predictive power of the text structure on the global main idea. In comparison, the other two independent variables show little effect (0.004, 0.019) on the students' performance on the global main idea. The difference between their p values (< 0.735, < 0.422) in this model and their p values (< 0.001, < 0.001) in the simple regression model suggests some correlation between the two variables. Therefore, a correlation test was conducted.

Table 3 Correlation between Variables

Independent variable	Dependent variable (Global main idea)	Explicit main idea	Implicit main idea
Explicit main idea	0.48		
Implicit main idea	0.63	0.54	
Text structure	0.77	0.57	0.74

Table 3 presents the correlations between any two variables. A considerable correlation (0.77) is shown between the global main idea and text structure, consistent with the simple and multiple regression models. Similar to both regression analyses, the correlation (0.48) between the global main idea and the explicit main idea proves the weakest, suggesting a gap between the ability to identify the explicit main idea and the ability to understand the global main idea.

The correlation between each pair of independent variables is over 50% (0.54, 0.57, and 0.74). That is to say, there is a fairly strong correlation (0.74) between recognizing the implicit main idea and understanding the text structure. These correlations account for the discrepancy in p values between the simple regression analysis and the multiple regression analysis. The fact that text structure correlates strongly with the global main idea (0.77) and the implicit main idea (0.74) suggests the existence of a common factor among the three variables—implicitness. This factor would compel the reader to infer meaning from the verbal expressions, the stated words. All the demonstrated correlations highlight the role of higher-level inference which is both conscious and effortful. In other words, the skill needed to identify the explicit main idea is qualitatively different from the skill needed to comprehend the global main idea, perceive the text structure, and infer the implicit main idea.

In sum, the results of all three different statistical analyses are consistent. Among the three independent variables, text structure is the best predictor of the students' performance on the global main idea. The predictive power comes from the fact that both text structure and the global main idea are built on a line of thought that requires the reader to recognize the structural development of the text, separate the central idea from the peripheral ones, and establish a logical or conceptual

structure by placing each main idea in its proper position. The weakest effect of the explicit main idea on the global main idea implies a qualitative difference between the two variables—explicit vs. implicit and local vs. global. The statistical status of the implicit main idea suggests its intermediate role between the global main idea and the explicit main idea—it shares with the former a degree of implicitness and overlaps with the latter in a local context.

2. Textual Features Affecting the Explicitness of the Explicit Main Idea
Table 4 presents the score of each explicit main idea and its textual features in terms of sentence structure, paragraph position, and the number of points in the sentence. For convenience, main ideas presented in complex sentence structure are separated from those in simple sentence structure.

Table 4 Scores and Textual Features of the Explicit Main Idea

Main idea	Score	Structure	Position	Point
1	30	Complex	1	1
2	31	Complex	1	1
3	24	Complex	2	1
4	26	Complex	1	2
5	39	Simple	1	1
6	40	Simple	1	1
7	31	Simple	1	2

As shown in Table 4, when paragraph position and the number of points are controlled, students score higher on the main idea presented in simple sentence structure than the main idea presented in complex sentence structure. The gap suggests that simple sentence structure makes the explicit main idea more explicit.

When sentence structure and number of points are controlled, students score much lower than when the main idea is in a non-initial position. Moreover, 21% of the students incorrectly identified the initial sentence as the main idea, simply by virtue of its position. Taking the initial sentence for the main idea reflects an engrained belief among the students that the main idea is usually stated in the first sentence of a paragraph. It is likely that this belief dictated the students' attention to the initial sentence, depressing their urge to look elsewhere in the paragraph. Clearly, an initial position makes the explicit main idea more explicit.

When sentence structure and paragraph position are controlled, students score lower on explicit main ideas that contain more than one point. This suggests that fewer points or less complex thought make the explicit main idea more explicit.

In sum, the explicitness of the explicit main idea is a matter of degree. Three textual features affect the explicitness of the explicit main idea—sentence structure, paragraph position, and the number of points. The effect of paragraph position reveals a strong belief in the initial position of the explicit main idea. The effect of sentence structure and the number of points exposes inadequacies in verbal efficiency and cognitive capacity necessary to process complex sentence structure and complicated thought.

3. Textual Features Affecting Implicitness of the Implicit Main Idea

In this section, the word *infer* was used to underscore the greater degree of implicitness in the implicit main idea than found in the explicit main idea. In other words, all implicit main ideas require conscious and effortful inference. The second text section that contained three implicit main ideas was preceded by a transitional paragraph. Each of the four paragraphs following the transitional paragraph began with an explicit statement of a widely held reason for not describing feelings, despite the actual benefit of describing feelings. All reasons except one were dismissed by the author as false beliefs or unfounded concerns. In order to correctly infer the implicit main idea, the students had to understand the benefit in the context of the reason dismissed as a false belief. In other words, the students had to follow the author's train of thought to examine the reasons critically. The third text section, which contained one implicit main idea, was also preceded by a transitional paragraph signaling the reader that the section to follow would provide instruction on how to describe feelings.

Table 5 Scores and Textual Features of Implicit Main Ideas

Main idea	Score	Contradicting statement	Supporting detail		
			Reason	Benefit	Harm
1	26	2	1	1	2
2	17	1	3	0	0
3	25	1	1	3	3
		Steps	Supporting detail		
4	28	4	8		

Table 5 presents the two text sections separately. Part One presents the students' scores on three implicit main ideas along with their textual features in the second section. Part Two presents one implicit main idea and its textual features in the third section.

Students scored lowest on main idea 2. Two textual features about main idea 2 presented in Table 5 are revealing. For one thing, no details in the paragraph support the benefit of describing feelings or the harm of not doing so. Instead, three details are devoted to tracing the sources of a widely held reason. The students' statements of main idea 2 reveal that many students understood the explicit reason but were unclear about the benefit. Although the paragraph concludes with a statement that contradicts the reason stated at the beginning, the prevailing details supporting the reason in the absence of details supporting the benefit prove misleading and confusing.

As mentioned earlier, every paragraph in this section states explicitly a reason for not describing feelings. While this statement sets a stage for countering the reason as a false belief, the lack of supporting details for the benefit of describing feelings seems to have drawn the students' attention in the wrong direction. It is likely that the absence of supporting details for the implicit main idea caused some students to focus on the reason rather than the benefit. This misplaced focus reflects a mentality of some students who show greater interest in a reason than the validity of the reason. The low score associated with the second main idea suggests that if adequate supporting details were provided for the implicit main idea, it would be rendered less implicit.

In comparison, students scored much higher recognizing the third main idea. As shown in Table 5, the paragraph contains more details which support the benefit of describing feelings than details which explain why people do not describe feelings. More importantly, three details support the harm of not describing feelings. When the implicit main idea involves correcting a misconception, details contradicting the misconception and emphasizing the conception would make the implicit main idea less implicit.

Students' scores are close on main ideas 1 and 3, although main idea 1 has fewer supporting details in two categories than main idea 3. On the other hand, main idea 1 has one more contradicting statement than main idea 3. Evidently, more contradicting statements offset the drawback of fewer overall supporting details. When the implicit main idea involves reinforcing a conception, over a misconception, more contradicting statements would make the implicit main idea less implicit.

Students scored highest on recognizing main idea 4 which differs from the other three implicit main ideas in two noticeable ways. First, the

knowledge involved is distinct. Main idea 4 is about procedural knowledge while the other three main ideas are about declarative knowledge. Second, no misconception is involved in main idea 4; all the sentences focus on how-to instruction. It suggests that when information is conveyed as straightforward procedural knowledge, the implicit main idea appears less implicit.

In sum, supporting details in the presentation of the implicit main idea make the main idea less implicit to the reader. Supporting details which refute a misconception also make the implicit main idea less implicit. Furthermore, if several statements contradict a misconception, the implicit main idea concerning the misconception will also appear less implicit. Finally, declarative knowledge is more implicit than its procedural counterpart.

Discussion

The results of this study have several curricular instructional implications. First, the students' performance on the main idea at both the global and local levels indicates that understanding the main idea should still remain an instructional focus for the college reading course aimed to promote the reading ability of first-year, underachieving students. Kintsch (1986) distinguished two categories of text: *artifact* vs. *medium*. The artifact text, such as literature, was studied in its own right while the medium text, such as the textbook, was studied for the information it presented. At college, virtually all the texts fall into the category of medium, requiring students to identify and comprehend main ideas explained in the textbooks. Corresponding to the two categories of text, Rosenblatt (1978) identified two stances taken by the reader: *esthetic* vs. *efferent*. When reading an artifact text, the reader usually takes the esthetic stance, living through the experience described in the text; when reading a medium text, the reader needs to take the efferent stance, focusing on important ideas presented in the text. The literature review that supports this study shows that students do not do well in identifying main ideas. This study offers more detailed information about students' difficulty with identifying the main idea. Findings from this study suggest that the college reading course instructors need to focus on the skills employed in grasping the global main idea and the local implicit main idea. Given what these students lack and what is required of them, many underprepared first-year students will benefit academically from the college reading course that helps them to appropriately decipher textbooks they encounter on a daily basis during their college career.

Second, the effect of the text structure on the global main idea indi-

cates that college reading instruction should encourage students to be
sensitive to text structure so as to trace the development of the global
main idea from local main ideas. Decades of research have established
the important role of text structure in reading comprehension (Meyer
& Rice, 1984; Pressley & McCormick, 1995). This study confirms its ef-
fect on understanding the global main idea. The process of searching
for the global main idea starts with identifying the structure of the text.
Moreover, the students' poor performance on the global main idea and
text structure signals incoherent thought processes and insensitivity
to the text structure. Since reading and thinking mutually inform each
other, instruction on text structure will nurture students' higher-level
inference skills and logical thinking abilities, which will allow them to
detect connections among ideas and examine whether the connections
are sufficient to validate the global idea. Without these thinking skills,
reading will stay at a superficial level. Consequently, critical thinking
and scientific inquiry, an important part of the mission of higher educa-
tion, would be unthinkable.

Third, the textual features of explicit main ideas in relation to the
students' performance point to an instructional need to stress English
proficiency in a college reading course. Many underprepared students
in postsecondary settings come with gaps, some significant, in their
ability to read and comprehend written text at the college level. In other
words, their substandard reading performance was partly caused by their
weak foundation in the English language. Wang (2006) detailed such
deficiencies among freshmen at a community college. Such deficiencies
became noticeable when it came to understanding ideas presented in
formal language and the complex sentence structures typical of col-
lege textbooks. More importantly, these students' deficient English will
limit their cognitive capacity, stand in the way of their college learn-
ing, and discourage them from further intellectual pursuit. Educational
psychologists (Piaget, Gabain, & Gabain, 1959; Vygotsky, 1988) long
ago recognized the pivotal role of language in cognitive development.
As a category maker, language influences conceptual understanding
and guides the organization of meaning. At college where conceptual
understanding and organization of meaning prevail in reading materi-
als, English deficiency will produce the "Matthews Effect" (Stanovich,
1986) if not addressed in a timely and effective manner in the college
reading course.

The textual features of implicit main ideas in relation to the students'
performance point to the complex role of example in facilitating compre-
hension. This study supports the conclusion made by Beishuizen (2002)
and his colleagues that the absence of examples in expository text hin-

dered comprehension. On the other hand, this study demonstrated that more does not necessarily mean better. In addition, the role of example demonstrated some relationship with the kind of information presented in the text. If the information ran against some conventional ideas or involved some misconceptions, counter examples appeared to assist understanding. When deciding on the ideal number of examples, consideration should be given to the kind of information presented and the role of misconception. Students not only tend to remember conventional beliefs but also fall back on them in their ways of thinking (Bransford, Brown, & Cocking, 1999). Such a tendency has some implication for textbook writers as well as classroom instructors. That is, more examples and repeated practices should be provided to remove false beliefs so as to make room for correct concepts and way of thinking.

The finding that recognizing the local main idea correlates weakly with identifying the global main idea suggests that the skills used to understand the local and global main ideas are not the same. In her discussion on the study of the main idea, Williams (1988) noted that the various definitions of the main idea made it hard to interpret the results across studies. This study indicated that a good definition of the main idea is necessary in studying the main idea. Otherwise, the results resemble comparing unlike items and confusion passes over into meaninglessness. To maintain intellectual integrity and guide practitioners' curricular design and classroom instruction, further studies should operationally define the main idea in such a way as to deepen its understanding in the reading community. Moreover, the variance unaccounted for between the local and global main ideas should be further investigated.

The moderate role of the text structure reflected in the regression analysis could be attributed to the interaction between text structure and the reader's prior knowledge. Kintsch (1994) found that a coherently structured text may not facilitate readers with adequate background knowledge as much as it may facilitate the reader with low background knowledge. Voss and Silfies (1996) also found that structural aspects of a text were especially important when the reader had little knowledge about the content of the text. The topic of the text in this study was familiar to the students. The familiar topic may have prompted the students to overlook the text structure signaled by the author. Further studies need to investigate the impact of prior knowledge on text structure.

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